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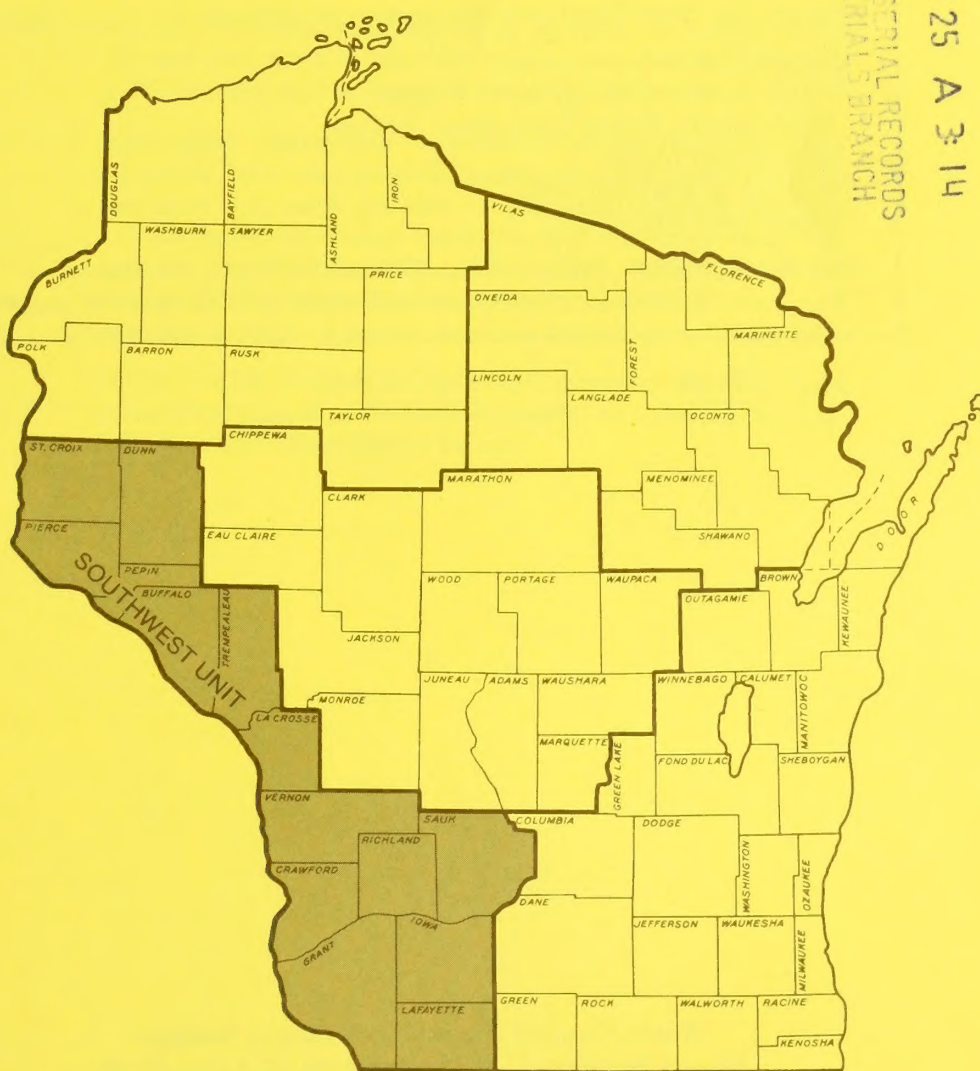
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# Timber Resource of Wisconsin's Southwest Survey Unit, 1983

Gerhard K. Raile

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## FOREWORD

Forest Inventory and Analysis (FIA) is a continuing endeavor as mandated by the Renewable Forest and Rangeland Resources Planning Act of 1974. Prior inventories were mandated by the McSweeney-McNary Forest Research Act of 1928. The objective of FIA is to periodically inventory the Nation's forest land to determine its extent, condition, and volume of timber, growth, and depletions. Up-to-date resource information is essential to frame intelligent forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories and publishing summary reports for individual States. The North Central Forest Experiment Station is responsible for forest resource evaluation in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

Fieldwork for the Wisconsin Statewide forest inventory was begun in the summer of 1981 and completed in late 1983. Reports on the three previous inventories of Wisconsin's timber resource are dated 1936, 1956, and 1968.

More accurate survey information was obtained during the 1983 survey than otherwise would have been feasible because of intensified field sampling. Such sampling was made possible by additional funding and field personnel provided the North Central Station by the Wisconsin State Legislature through the Department of Natural Resources. Data from the Department's canvass of all primary wood-using plants in the State were used to help estimate the quantity of timber products harvested in Wisconsin.

Aerial photos used in the Southwest Unit Forest Inventory were furnished by the Wisconsin Department of Natural Resources and the USDA Agricultural Stabilization and Conservation Service.



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# TIMBER RESOURCE OF WISCONSIN'S SOUTHWEST SURVEY UNIT, 1983

Gerhard K. Raile, *Mensurationist*

## HIGHLIGHTS

### Forest Area

- Forest land accounted for 2.0 million acres (32 percent of the Unit's land area) in 1983; this constitutes a 30-percent increase since 1968.
- Commercial forest land occupied 1.9 million acres in 1983--an increase of 29 percent from the 1.5 million acres in 1968.
- Productive-reserved forest land totaled 38,800 acres in 1983, compared to 12,300 acres in 1968.
- Vernon County contained the largest area of commercial forest in 1983 (200,300 acres), a 44-percent increase from 139,300 acres in 1968. Land changing from wooded pasture to commercial forest caused this increase.
- Farmers and miscellaneous private individuals hold 91 percent of the commercial forest.
- State and Federal agencies owned 3 percent of commercial forest in 1983.
- The oak-hickory forest type continued to dominate the commercial forest land base in 1983, comprising 55 percent of the commercial forest area.
- Sapling and seedling stands, which increased 152,300 acres between surveys, occupied 20 percent of the commercial forest in 1983 as compared to 16 percent in 1968.
- Sawtimber stands, which increased by 271,100 acres between surveys, amounted to 56 percent of the commercial forest in 1983, compared to 54 percent in 1968.
- Sixty-two percent (34,800 acres) of the commercial plantation area is in the red pine type.
- Only 6 percent of all commercial forest area has a prominent conifer understory.
- Less than 2 percent of all forest land is reserved.
- The average site index for commercial forest land in the Unit is 66 feet at age 50.

### Timber Volume

- The volume of growing stock in 1983 was 1.9 billion cubic feet, 56 percent greater than the 1.2 billion in 1968.

- Sawtimber volume amounted to 6.0 billion board feet in 1983, 77 percent greater than the 1968 volume.
- The 1.8 billion cubic feet of hardwoods make up 95 percent of the growing-stock volume.
- Red pine growing-stock volume increased 812 percent since 1968. Ingrowth of plantations to merchantable size was the dominant factor in this dramatic increase.
- Sixty-two percent of the growing-stock volume is accounted for by the oaks (857 million cubic feet), maples (208 million cubic feet), and basswood (125 million cubic feet).
- Average growing-stock volume per acre in 1983 was 1,008 cubic feet, compared to 831 cubic feet in 1968.
- Nearly 60 percent of the sawtimber volume is in trees with grade 3 butt logs. Tree diameter is generally the limiting criteria.
- The volume in cull trees (rough, rotten, and short-log cull) is 508 million cubic feet; salvable dead tree volume is 35 million cubic feet.

### Stand Conditions

- Net annual growth on growing-stock trees was 50 million cubic feet in 1982.
- The net annual growth rate of growing stock was 2.6 percent of inventory in 1982.
- Net growth averaged 26.2 cubic feet per acre in 1982.
- Annual mortality of growing stock amounted to 17 million cubic feet (0.9 percent of inventory) in 1982.
- Disease accounted for 34 percent of the mortality in 1982; chiefly diseases of elm.

### Timber Use

- Timber removals from growing stock in 1981 totaled nearly 30.6 million cubic feet (1.6 percent of inventory), compared to 29.9 million cubic feet (2.4 percent of inventory) in 1967.
- The oaks made up 64 percent of the 1981 removals volume and account for 44 percent of the growing-stock volume.
- Output of roundwood products totaled 49.9 million cubic feet in 1981; 51 percent was fuelwood, 39 percent was saw logs, 4 percent was pulpwood, and 6



percent was other.

- Wood residue from primary plants totaled 9.2 million cubic feet in 1981, 99 percent of which was used.

## Biomass

- Highest yields per acre of live tree biomass are in

the oak-hickory (84 green tons) the red pine (79 tons), and the birch (75 tons) forest types.

- Live tree biomass totaled 143 million green tons (74 tons per acre) in 1983, with just under half in the boles of growing-stock trees.

## APPENDIX

### ACCURACY OF SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State and Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors. These sampling errors mean that the chances are two out of three that the true inventory value is within the limits indicated. For example, the estimated growing-stock volume in the Southwest Unit in 1983, 1,935.7 million cubic feet, has a sampling error of  $\pm 3.7$  percent (71.6 million cubic feet). Therefore, the growing-stock volume from a 100-percent inventory would have a two in three chance of falling between 1,864.1 and 2,007.3 million cubic feet.

The following tabulation shows the sampling errors for the 1983 Southwest Unit Forest Inventory:

| Item                   | Unit totals                        | Sampling error |
|------------------------|------------------------------------|----------------|
| Growing stock          | (Million cubic feet)               | (Percent)      |
| Volume                 | 1,936                              | 3.7            |
| Growth                 | 50                                 | 5.7            |
| Removals               | 31                                 | 39.4           |
| Sawtimber              | (Million board feet <sup>1</sup> ) |                |
| Volume                 | 6,039                              | 4.2            |
| Growth                 | 183                                | 5.3            |
| Removals               | 124                                | 30.4           |
| Commercial forest land | (Thousand acres)                   |                |
|                        | 1,920.0                            | 0.39           |

As survey data are broken down into sections smaller than Survey Unit totals, the sampling error increases. For example, the sampling error for growing-stock volume in a particular county is higher than that for total growing-stock volume in the Unit (table 66 shows the sampling errors for estimates smaller than Unit totals).

### SURVEY PROCEDURES

We used a two-phase sampling design for the 1983 Wisconsin survey. This sampling scheme and associated estimators are similar to sampling with partial

replacement (SPR) in that a set of randomly located plots was available for remeasurement and a set of new randomly located plots was established and measured. Major enhancements in the new Wisconsin design were stratification for disturbance on the old sample and use of a growth model to improve regression estimates made on the old undisturbed forest plots. The growth model used was the Stand and Tree Evaluation and Modeling System (STEMS).<sup>2</sup>

The major steps in the new survey design were as follows:

1. The first phase of the survey was to interpret aerial photos. In this phase two sets of random points were located on current aerial photographs. The first was a set of new photo points and the second was a set of relocated old photo points (ground plot locations from the previous inventory). In all, 35,628 1-acre points, including old ground sample locations, were systematically distributed across aerial photos of the entire Unit. These points were classified into land classes as shown below to make a preliminary estimate of forest area. Next, 12,802 of these points were stereoclassified as to stand-size class and density. Finally, 2,455 points were examined on the ground to correct the preliminary area estimate for errors in classification and for actual changes in land use since the photos were taken.

| Land class                        | Photo points classified | Photo points stereo-classified | Inventory plots checked |
|-----------------------------------|-------------------------|--------------------------------|-------------------------|
| Forest land                       | 11,675                  | 11,675                         | 722                     |
| Unproductive/reserved forest land | 216                     | 216                            | 26                      |
| Nonforest land                    | 22,974                  | 911                            | 1,656                   |
| Water                             | 763                     | 0                              | 51                      |
| Total                             | 35,628                  | 12,802                         | 2,455                   |

<sup>2</sup>For more information on STEMS, see: Belcher, D. L.; Holdaway, M. R.; Brand, G. J. A description of STEMS: The stand and tree evaluation and modeling system. Gen. Tech. Rep. NC-79. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1981, 18 p.

<sup>1</sup>International 1/4-inch rule.



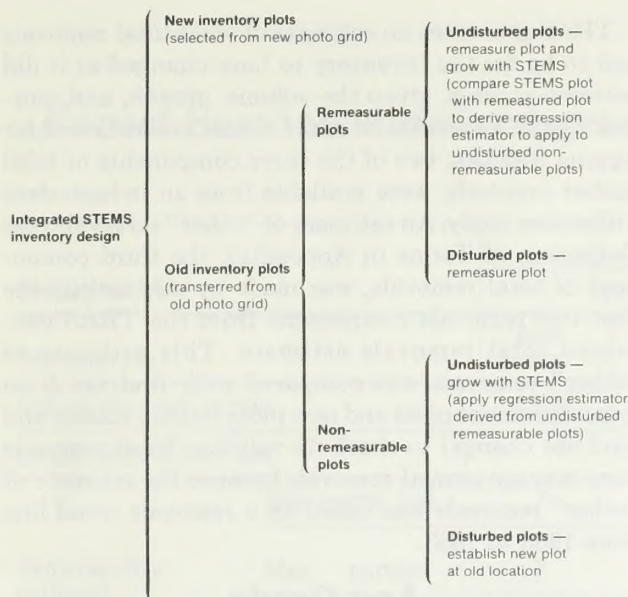


Figure 1.--Logic structure for the 1983 Wisconsin sample design.

2. The second phase of the survey was to sample ground plots. The plot selection and measurement procedures of phase two of the new Wisconsin survey design are outlined in figure 1.

From the new photo points, a random sample of ground plots was established; and land use, volume, mortality, and cutting were recorded. At each forest ground plot location, variable-radius plots (basal area factor 37.5) were established at 10 points uniformly placed over the sample acre. These locations were monumented for future remeasurement.

On the old inventory photo points (old plot locations), we used a somewhat different procedure. Old plots were either remeasurable (monumented) or non-remeasurable (not monumented and thus difficult to relocate). Within both of these groups, old plots were additionally identified as undisturbed or disturbed. The remeasurable old inventory photo points which are classified as forest undisturbed were remeasured on the ground to obtain current land use, volume, growth, and removals data. Additionally, all forest undisturbed remeasurable plots were projected to the current time using STEMS to provide estimates of current volume and growth. The comparison of the projected and observed values on these plots provided regression estimators to adjust the projected values of the undisturbed nonremeasurable plots. All disturbed remeasurable plots were remeasured on the ground to assess changes since the last inventory.

Disturbance as used here refers to any change on a plot that can be detected on aerial photos and that the STEMS growth processor cannot predict, such as

catastrophic mortality, cutting, seedling stands, and land use change.

The nonremeasurable forest points are those that were measured but not monumented during the 1968 inventory. STEMS updated these old undisturbed plots, producing an estimate of current data. Thus these points became ground plots even though the information was obtained without actually visiting the plot. For points classified as disturbed, a new ground plot was established as close to the old location as possible. This allowed information about land use trends to be recorded even though the old plot could not be exactly relocated for remeasurement.

The estimation procedure for computing statistics from this sampling design was more complicated than the simple two-phase estimation procedure used in the past. In fact, this procedure yielded two independent samples, one coming from the new photo points and the other coming from the old photo points that were remeasured or projected. A more detailed description of the sampling design is available in a separate publication.<sup>3</sup>

3. Statistics on timber utilization during 1981 were obtained from mill surveys. The Wisconsin Department of Natural Resources canvassed resident sawmills, veneer mills, and other primary wood-using plants. The North Central Forest Experiment Station canvassed out-of-State sawmills, pulpmills, and veneer mills to determine their use of Wisconsin timber. Fuelwood and fencepost output was based on a sample of public and private landowners to determine their production of fuelwood and fenceposts. Estimates of primary mill residue used for fuelwood were obtained from the canvass of Wisconsin primary wood-using plants.

4. We measured a total of 2,568 felled trees on 133 active logging operations throughout the State during 1981-1982 to develop wood utilization factors for converting timber products output to timber removals for saw logs and pulpwood. Factors for all other products were obtained during the 1966-1967 Wisconsin utilization study.

5. Field data were sent to St. Paul, Minnesota, to be processed and analyzed.

<sup>3</sup>Hahn, J. T.; Hansen, M. H.; Fairweather, S. E. A Sampling procedure incorporating a growth simulator. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; (Manuscript in process).



## COMPARING WISCONSIN'S FOURTH INVENTORY WITH THE THIRD INVENTORY

Data from new forest inventories are often compared with data from earlier inventories to determine trends in forest resources. However, changes in procedures and definitions between surveys often make it necessary to adjust earlier survey data so that they are comparable to data from the new survey. A consistency check was made for the Unit to ensure that the changes observed between inventories reflect actual changes in the resource and not changes in definitions or procedures.

Between the 1968 and 1983 inventories of Southwest Wisconsin, a procedural change was made in the method of deriving annual growth and mortality estimates. Growth and mortality figures for the 1968 inventory were based on field estimates from nonremeasurement plots. Information gathered on remeasurement plots during the current inventory was used to adjust the STEMS estimate of growth and mortality.

### Checking for Consistency

A test was made to ensure that it was possible to move from the 1968 resource statistics to the 1983 values by means of Timber Resource Analysis System (TRAS), a USDA Forest Service computer program for updating, backdating, and projecting timber volume, growth, mortality, and removals. Using growth rates, mortality rates, and removals rates for the period between the two surveys, TRAS projected the inventory from 1968 to 1983. The program prints out volumes by diameter class for softwoods and hardwoods for selected years in the period. Thus, any inconsistencies in volume, growth, mortality, and removals could be identified. No adjustment of the 1968 inventory was needed.

TRAS generates an estimate of what total removals had to be for the inventory to have changed as it did between surveys, given the volume, growth, and mortality data. Estimates of removals for products and for logging residues, two of the three components of total timber removals, were available from an independent utilization study. An estimate of "other" removals (see Definition of Terms in Appendix), the third component of total removals, was made by subtracting the first two removals components from the TRAS-generated total removals estimate. This estimate of "other" removals was compared with findings from remeasurement plots and new plots (stump counts and land use change) to check its validity. Total removals were average annual removals because the estimate of "other" removals was based on a removals trend line from 1968 to 1983.

### Log Grade

In Wisconsin's Southwest Unit the butt log of every sawtimber tree on every full permanent sample plot was graded for quality.

Butt logs were graded on the basis of external characteristics as indicators of quality. Hardwood species were graded according to "Hardwood Log Grades for Standard Lumber."<sup>4</sup> The best 12-foot section of the lowest 16-foot hardwood log, or the best 12-foot upper section if the butt log did not meet minimum log-grade standards, was graded as follows:

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<sup>4</sup>Vaughn, C. L.; Wollin, C. A.; McDonald, K. A.; Bulgrin, E. H. *Hardwood log grades for standard lumber*. Res. Pap. FPL-63. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory; 1966. 52 p.



# Forest Service standard grades for hardwood factory saw logs

| Grading factors   |  | Specifications          |                  |      |                         |      |       |                  |          |
|---|--|-------------------------|------------------|------|-------------------------|------|-------|------------------|----------|
|   |  | Log grade 1             |                  |      | Log grade 2             |      |       | Log grade 3      |          |
| Position in tree  |  | Butts only              | Butts and uppers |      | Butts and uppers        |      |       | Butts and uppers |          |
| Scaling diameter, inches  |  | <sup>1</sup> 13-15      | 16-19            | 20 + | <sup>2</sup> 11 +       | 12 + |       | 8 +              |          |
| Length without trim, feet   |  | 10 +                    |                  |      | 10 +                    | 8-9  | 10-11 | 12 +             | 8 +      |
| Required clear cuttings <sup>3</sup> of each of three best faces <sup>4</sup> | Min. length, feet  | 7                       | 5                | 3    | 3                       | 3    | 3     | 3                | 2        |
|   | Max. number  | 2                       | 2                | 2    | 2                       | 2    | 2     | 3                | No Limit |
|   | Min. proportion of log length required in clear cutting    | 5/6                     | 5/6              | 5/6  | 2/3                     | 3/4  | 2/3   | 2/3              | 1/2      |
| Maximum sweep and crook allowance   | For logs with less than one-fourth of end in sound defects | 15 percent              |                  |      | 30 percent              |      |       | 50 percent       |          |
|   | For logs with more than one-fourth of end in sound defects | 10 percent              |                  |      | 20 percent              |      |       | 35 percent       |          |
| Maximum scaling deduction   |  | 40 percent <sup>5</sup> |                  |      | 50 percent <sup>6</sup> |      |       | 50 percent       |          |

<sup>1</sup>Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.

<sup>2</sup>Ten-inch logs of all species can be #2 if they otherwise meet requirements for small #1's.

<sup>3</sup>A clear cutting is a portion of a face, extending the width of the face, that is free of defects.

<sup>4</sup>A face is one-fourth of the surface of the log as divided lengthwise.

<sup>5</sup>Otherwise #1 logs with 41-60 percent deductions can be #2.

<sup>6</sup>Otherwise #2 logs with 51-60 percent deductions can be #3.

# Forest Service standard specifications for hardwood construction logs (tie and timber logs)<sup>1</sup>

|                           |               |  |
|---------------------------|---------------|--|
| Position in tree          |               | Butt and upper   |
| Min. diameter, small end  |               | 8 inches +   |
| Min. length, without trim |               | 8 feet   |
| Clear cuttings            |               | No requirements.   |
| Sweep allowance, absolute |               | One-fourth of the diameter at the small end for each 8 feet of length.   |
| Sound surface defects     | Single knots  | Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.   |
|                           | Whorled knots | Any number if sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.   |
|                           | Holes         | Any number provided none has a diameter over one-third of the log diameter at point of occurrence, and none extends more than 3 inches into included timber. <sup>2</sup>  |
| Unsound surface defects   |               | Same requirements as for sound defects if they extend into included timber. <sup>2</sup> No limit if they do not.  |
| End defects               | Sound         | No requirements.   |
|                           | Unsound       | None allowed; log must be sound internally, but will admit one shake not to exceed one-fourth the scaling diameter and will admit a longitudinal split not extending more than 5 inches into the contained timber. |

<sup>1</sup>These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, it may be necessary to subdivide the class into grades.

<sup>2</sup>Included timber is always square, and dimension is judged from small end.

Softwood species were graded according to the following specifications on the following page.



# Log Grades for Eastern White Pine

| Log grade | Minimum size Diameter | Length <sup>1</sup> | Sweep or crook allowance   | Total cull allowance including sweep | Maximum weevil injury                                  | Allowable knot size (inches) <sup>2</sup> on three best faces or minimum clearness of four faces   |
|-----------|-----------------------|---------------------|----------------------------|--------------------------------------|--|--|
|           | <i>Inches</i>         | <i>Feet</i>         | ----- <i>Percent</i> ----- |                                      | <i>Number</i>  | <i>Inches</i>  |
| 1         | 12 & 13               | 8-16                | 20                         | 50                                   | 0  | Four faces clear full length   |
|           | 14+                   | 10-16               | 20                         | 50                                   | 0  | Two faces clear full length, or four faces clear 50 percent length (6 feet min. length) <sup>3</sup>   |
| 2         | 6+                    | 8-16                | 30                         | 50                                   | 0  | Sound knots l.e. <sup>4</sup> D/6 and less than 3 inches <sup>5</sup><br>Unsound knots: l.e. 1½ inches and for: butt, lots l.e. D/12 upper logs l.e. D/10 or four faces clear 50 percent of length |
| 3         | 6+                    | 8-16                | 40                         | 50                                   | 8-foot logs<br>1 weevil<br>10-foot + logs:<br>2 weevil | Sound knots l.e. D/3 and less than 5 inches.<br>Unsound knots l.e. D/6 and less than 2½ inches.  |
| 4         | 6+                    | 8-16                | 50                         | 50                                   | No limit   | No limit   |

<sup>1</sup>Plus trim.

<sup>2</sup>Disregard all knots less than ½-inch diameter in all grades.

<sup>3</sup>The sum of the diameter of sound knots plus twice the sum of the diameter of unsound knots (in inches) is less than or equal to ½ of the diameter of the log (inches).

<sup>4</sup>l.e. means less than or equal to.

<sup>5</sup>D means d.i.b. of log at location of knot.

## LOG GRADES FOR JACK PINE AND RED PINE

*Grade 1:* logs with three or four clear faces.<sup>5</sup>

*Grade 2:* logs with one or two clear faces.

*Grade 3:* logs with no clear faces.

After the tentative log grade is established from above, the log will be degraded one grade for each of the following, except that no log can be degraded below grade 3. Net scale after deduction for defect must be at least 50 percent of the gross contents of the log.

1. *Sweep.* Degrade any tentative 1 or 2 log one grade if sweep amounts to 3 or more inches and equals or exceeds one-third the diameter inside bark at small end.

2. *Heart rot.* Degrade any tentative 1 or 2 log grade if conk, massed hyphae, or other evidence of advance heart rot is found anywhere in it.

<sup>5</sup>A face is one-fourth of the circumference in width extending full length of the log. Clear faces are those free of: knots measuring more than ½ inches in diameter, overgrown knots of any size, and holes more than ¼ inches in diameter. Faces may be rotated to obtain the maximum number of clear ones.

## LOG GRADES FOR ALL OTHER SOFTWOOD LOGS

### Grade 1

1. Logs must be 16 inches in diameter or larger, 10 feet or longer, and with deduction for defect not more than 30 percent of gross scale.

2. Logs must be at least 75 percent clear on each of three faces.

3. All knots outside clear cutting must be sound and not over 2½-inches in size.

### Grade 2

1. Logs must be 12 inches in diameter or larger, 10 feet or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

2. Logs must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

### Grade 3

1. Logs must be 6 inches in diameter or larger, 8 feet or longer, and with a net scale after deduction for defect or at least 50 percent of the gross contents of the log.

Note: (A) Diameters are diameter inside bark (d.o.b.) at small end of log.

(B) Percent clear refers to percent clear in one continuous section.

## TREE SPECIES GROUPS IN WISCONSIN<sup>6</sup>

### SOFTWOODS

|                            |                             |
|----------------------------|-----------------------------|
| Jack pine .....            | <i>Pinus banksiana</i>      |
| Red pine .....             | <i>Pinus resinosa</i>       |
| Eastern white pine.....    | <i>Pinus strobus</i>        |
| White spruce.....          | <i>Picea glauca</i>         |
| Black spruce.....          | <i>Picea mariana</i>        |
| Balsam fir.....            | <i>Abies balsamea</i>       |
| Eastern hemlock.....       | <i>Tsuga canadensis</i>     |
| Tamarack.....              | <i>Larix laricina</i>       |
| Eastern redcedar .....     | <i>Juniperus virginiana</i> |
| Northern white-cedar ..... | <i>Thuja occidentalis</i>   |
| Other softwoods            |                             |
| Norway spruce .....        | <i>Picea abies</i>          |
| Scotch pine.....           | <i>Pinus sylvestris</i>     |

### HARDWOODS

|                         |                               |
|-------------------------|-------------------------------|
| White oaks              |                               |
| White oak.....          | <i>Quercus alba</i>           |
| Swamp white oak .....   | <i>Quercus bicolor</i>        |
| Bur oak.....            | <i>Quercus macrocarpa</i>     |
| Chinkapin oak .....     | <i>Quercus muehlenbergii</i>  |
| Select red oak          |                               |
| Northern red oak .....  | <i>Quercus rubra</i>          |
| Other red oaks          |                               |
| Northern pin oak .....  | <i>Quercus ellipsoidalis</i>  |
| Black oak.....          | <i>Quercus velutina</i>       |
| Select hickory          |                               |
| Shagbark hickory .....  | <i>Carya ovata</i>            |
| Other hickory           |                               |
| Bitternut hickory.....  | <i>Carya cordiformis</i>      |
| Yellow birch .....      | <i>Betula alleghaniensis</i>  |
| Hard maple              |                               |
| Sugar maple .....       | <i>Acer saccharum</i>         |
| Black maple.....        | <i>Acer nigrum</i>            |
| Soft maples             |                               |
| Red maple.....          | <i>Acer rubrum</i>            |
| Silver maple .....      | <i>Acer saccharinum</i>       |
| Ashes                   |                               |
| White ash.....          | <i>Fraxinus americana</i>     |
| Black ash.....          | <i>Fraxinus nigra</i>         |
| Green ash .....         | <i>Fraxinus pennsylvanica</i> |
| Balsam poplar.....      | <i>Populus balsamifera</i>    |
| Eastern cottonwood..... | <i>Populus deltoides</i>      |

<sup>6</sup>The common and scientific names are based on: Little, Elbert L. Check list of native and naturalized trees of the United States. Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture, Forest Service; 1979. 375 p.

|                           |                              |
|---------------------------|------------------------------|
| Sycamore .....            | <i>Platanus occidentalis</i> |
| Aspens                    |                              |
| Bigtooth aspen.....       | <i>Populus grandidentata</i> |
| Quaking aspen .....       | <i>Populus tremuloides</i>   |
| American basswood.....    | <i>Tilia americana</i>       |
| Beech.....                | <i>Fagus grandifolia</i>     |
| Black walnut .....        | <i>Juglans nigra</i>         |
| Black cherry.....         | <i>Prunus serotina</i>       |
| Butternut.....            | <i>Juglans cinerea</i>       |
| Elms                      |                              |
| American elm.....         | <i>Ulmus americana</i>       |
| Slippery elm .....        | <i>Ulmus rubra</i>           |
| Rock elm.....             | <i>Ulmus thomasi</i>         |
| Hackberry.....            | <i>Celtis occidentalis</i>   |
| Paper birch.....          | <i>Betula papyrifera</i>     |
| Black willow.....         | <i>Salix nigra</i>           |
| Other hardwoods           |                              |
| Boxelder.....             | <i>Acer negundo</i>          |
| Black locust.....         | <i>Robinia pseudoacacia</i>  |
| Honeylocust.....          | <i>Gleditsia triacanthos</i> |
| River birch.....          | <i>Betula nigra</i>          |
| Red mulberry .....        | <i>Morus rubra</i>           |
| Blackgum.....             | <i>Nyssa silvatica</i>       |
| Northern catalpa .....    | <i>Catalpa speciosa</i>      |
| Noncommercial species     |                              |
| Mountain maple .....      | <i>Acer spicatum</i>         |
| Eastern hophornbeam ..... | <i>Ostrya virginiana</i>     |
| Peachleaf willow .....    | <i>Salix amygdaloides</i>    |
| American hornbeam.....    | <i>Carpinus caroliniana</i>  |
| Hawthorn.....             | <i>Crataegus</i> spp.        |
| Striped maple.....        | <i>Acer pennsylvanicum</i>   |
| Mountain ash.....         | <i>Sorbus</i> spp.           |
| Pin cherry.....           | <i>Prunus pennsylvanica</i>  |
| Chokecherry .....         | <i>Prunus virginiana</i>     |

## METRIC EQUIVALENTS OF UNITS USED IN THIS REPORT

|   |
|---|
| 1 acre = 4,046.86 square meters or 0.405 hectare.             |
| 1,000 acres = 405 hectares.                                   |
| 1 cubic foot = 0.0283 cubic meter.                            |
| 1 foot = 30.48 centimeters or 0.3048 meter.                   |
| 1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter. |
| 1 pound = 0.454 kilogram.                                     |
| 1 ton = 0.907 metric ton.                                     |

## DEFINITION OF TERMS

**Acceptable trees.**--Growing-stock trees of commercial species that meet specified standards of size and quality. These trees would be favored by forest managers.

**Basal area.**--The area in square feet of the cross section at breast height of a single tree. When the basal area of all trees in a stand are summed, the result



is usually expressed as square feet of basal area per acre.

**Biomass.**--The above-ground volume of all live trees (including bark and foliage). Biomass is made up of 5 components:

*Growing-stock bole.*--Biomass of a growing-stock tree from a 1-foot stump to a variable 4-inch top.

*Growing-stock tops and limbs.*--Biomass of a growing-stock tree from a 1-foot stump minus the growing-stock bole.

*Cull bole.*--Biomass of a cull tree from a 1-foot stump to a variable 4-inch top.

*Cull tops and limbs.*--Biomass of a cull tree from a 1-foot stump minus the cull hole.

*1- to 5-inch trees.*--Biomass of all live trees from 1 to 5 inches in diameter at breast height.

**Commercial forest land.**--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as commercial forest land are capable of producing more than 20 cubic feet per acre per year of annual growth when managed. Currently inaccessible and inoperable areas are included except when the areas involved are small and unlikely to become suitable for producing industrial wood in the foreseeable future.)

**Commercial species.**--Trees species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam and hawthorn.)

**County and municipal land.**--Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

**Cull.**--Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect.

**Diameter classes.**--A classification of trees based on diameter outside bark, measured at breast height (4-½ feet above the ground). (Note: D.b.h. is the common abbreviation for diameter at breast height. Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.)

**Farm.**--Any land from which \$1,000 or more of agricultural products were produced and sold during the year.

**Farmer-owned land.**--Land owned by farm operators. (Note: Excludes land leased by farm operators from nonfarm owners, such as railroad companies and States.)

**Forest land.**--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest

use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. Also see definitions for land area, commercial forest land, noncommercial forest land, productive-re-served forest land, stocking, unproductive forest land, and water.

**Forest industry land.**--Land owned by companies or individuals operating primary wood-using plants.

**Forest trees.**--Woody plants having a well-developed stem and usually more than 12 feet tall at maturity.

**Forest type.**--A classification of forest land based on the species forming a plurality of live tree stocking. Major forest types in the State are:

*Jack pine.*--Forests in which jack pine comprises a plurality of the stocking. (Common associates include eastern white pine, red pine, aspen, birch, and oak.)

*Red pine.*--Forests in which red pine comprises a plurality of the stocking. (Common associates include eastern white pine, jack pine, aspen, birch, and oak.)

*White pine.*--Forests in which eastern white pine comprises a plurality of the stocking. (Common associates include red pine, aspen, birch, and maple.)

*Balsam fir.*--Forests in which balsam fir and white spruce comprise a plurality of stocking with balsam fir the most common. (Common associates include white spruce, aspen, maple, birch, northern white-cedar, and spruce.)

*White spruce.*--Forests in which white spruce and balsam fir comprise a plurality of the stocking with white spruce the most common. (Common associates include balsam fir, aspen, maple, birch, and northern white-cedar.)

*Black spruce.*--Forests in which swamp conifers comprise a plurality of the stocking with black spruce the most common. (Common associates include tamarack, northern white-cedar, and balsam fir.)

*Northern white-cedar.*--Forests in which swamp conifers comprise a plurality of the stocking with northern white-cedar the most common. (Common associates include balsam fir, black ash, spruce, and black spruce.)

*Tamarack.*--Forests in which swamp conifers comprise a plurality of the stocking with tamarack the most common. (Common associates include black spruce, balsam fir, and aspen.)

*Oak-hickory.*--Forests in which northern red oak,

- bur oak, or hickories, singly or in combination, comprise a plurality of the stocking. (Common associates include jack pine, aspen, birch, and maple.)
- Elm-ash-soft maple.*--Forests in which lowland elm, ash, cottonwood, and red maple, singly or in combination, comprise a plurality of the stocking. (Common associates include aspen, birch, and balsam fir.)
- Maple-birch.*--Forests in which sugar maple, basswood, yellow birch, elm, and red maple, singly or in combination, comprise a plurality of the stocking. (Common associates include white pine, elm, hemlock, and basswood.)
- Aspen.*--Forests in which quaking aspen or big-tooth aspen, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, pine, balsam fir, and paper birch.)
- Paper birch.*--Forests in which paper birch comprises a plurality of the stocking. (Common associates include maple, aspen, and balsam fir.)
- Exotic.*--Forests in which species not native to the State comprise a plurality of the stocking. (Mostly Scotch pine plantations.)
- Gross area.**--The entire area of land and water as determined by the Bureau of the Census, 1970.
- Growing-stock trees.**--Live trees of commercial species, excluding rough and rotten trees.
- Growing-stock volume.**--Net volume in cubic feet of growing-stock trees 5 inches d.b.h. and over, from a 1-foot stump to a minimum 4 inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs. Cubic feet can be converted to standard cords by dividing by 79. One standard cord is 128 cubic feet of stacked wood, including bark and air.
- Hardwoods.**--Dicotyledonous trees, usually broad-leaved and deciduous.
- Idle farmland.**--Includes former cropland, orchards, improved pastures, and farm sites not tended within the past 2 years and presently less than 16.7 percent stocked with trees.
- Improved pasture.**--Land currently improved for grazing by cultivating, seeding, irrigating, or clearing of trees or brush and less than 16.7 percent stocked with live trees.
- Land area.**--A. *Bureau of the Census.* The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.
- B. *Forest Inventory and Analysis.* The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.
- Live trees.**--Growing-stock, rough, and rotten trees 1 inch d.b.h. and larger.
- Log grades.**--A classification of logs based on external characteristics as indicators of quality or value. (See Appendix for specific grading factors used.)
- Logging residues.**--The unused growing stock portions of trees cut or killed by logging.
- Maintained road.**--Any road, hard-topped or other surfaces, that is plowed or graded at least once a year. Includes right-of-way that are cut or treated to limit herbaceous growth.
- Marsh.**--Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation and that is intermittently covered with water.
- Merchantable.**--Refers to a pulpwood or saw log section that meets pulpwood or saw log specifications, respectively.
- Miscellaneous federal land.**--Federal land other than National Forest, land administered by the Bureau of Land Management, and Indian land.
- Miscellaneous private land.**--Privately owned land other than forest-industry and farmer-owned land.
- Mortality.**--The volume of sound wood in growing-stock and sawtimber trees that die annually.
- National Forest land.**--Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.
- Net annual growth of growing stock.**--The annual change in volume of sound wood in live sawtimber and poletimber trees and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes.
- Net annual growth of sawtimber.**--The annual change in the volume of live sawtimber trees and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes.
- Net volume.**--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.
- Noncommercial forest land.**--(a) Unproductive forest land and (b) productive-reserved forest land.
- Noncommercial species.**--Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.
- Nonforest land.**--Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, power-line clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120



feet wide and more than 1 acre in area to quality as nonforest land.)

a. *Nonforest land without trees.*--Nonforest land with no live trees present.

b. *Nonforest land with trees.*--Nonforest land with one or more trees per acre at least 5 inches d.b.h.

**Nonstocked land.**--Commercial forest land less than 16.7 percent stocked with growing-stock trees.

**Other removals.**--Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the commercial forest land classification by land use change. Examples are removals from cultural operations such as timber stand improvement work, land clearing, and changes in land use.

**Ownership.**--Property owned by one owner, regardless of the number of parcels in a specified area.

**Ownership size class.**--The amount of commercial forest land owned by one owner, regardless of the number of parcels.

**Owner tenure.**--The length of time a property has been held by the owner.

**Physiographic class.**--A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

*Xeric sites.*--Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: sandy jack pine plains.

*Xeromesic sites.*--Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

*Mesic sites.*--Deep, well-drained soils. Growth and species occurrence are limited only by climate.

*Hydromesic sites.*--Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: better drained bottomland hardwood sites.

*Hydric sites.*--Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and spruce bogs.

**Plant byproducts.**--Plant residues used for products such as mulch, pulp chips, and fuelwood.

**Plant residues.**--Wood and bark materials generated at manufacturing plants during production of other products.

**Poletimber stands.**--(See stand-size class.)

**Poletimber trees.**--Growing-stock trees of commercial species at least 5 inches d.b.h. but smaller than sawtimber size.

**Productive-reserved forest land.**--Forest land sufficiently productive to qualify as commercial forest land but withdrawn from timber utilization through statute, administration regulation, designation, or exclusive use for Christmas tree production, as in-

dicated by annual shearing.

**Productive-deferred.**--Forest land sufficiently productive to quality as commercial forest land but presently withdrawn from timber utilization because it is being considered for possible inclusion into the Wilderness system.

**Rotten trees.**--Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of extra cull volume in a tree is rotten.

**Rough trees.**--(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, because they do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

**Roundwood products.**--Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs, veneer logs and bolts; cooperage logs and bolts; pulpwood; fuelwood; piling; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

**Salvable dead trees.**--Standing or down dead trees considered merchantable by regional standards.

**Saplings.**--Live trees 1 to 5 inches d.b.h.

**Sapling-seeding stands.**--(See stand-size class.)

**Saw log.**--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7 inches (9 inches for hardwoods) or other combinations of size and defect specified by regional standards.

**Saw log portion.**--That part of the bole of sawtimber trees between the stump and the saw log top.

**Saw log top.**--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7 inches d.o.b. for softwoods and 9 inches d.o.b. for hardwoods.

**Sawtimber stands.**--(See stand-size class.)

**Sawtimber trees.**--Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9 inches d.b.h. Hardwoods must be at least 11 inches d.b.h.

**Sawtimber volume.**--Net volume of the saw log portion of live sawtimber in board feet, International 1/4-inch rule, from stump to a minimum 7 inches top diameter outside bark (d.o.b.) for softwoods and a minimum 9 inches top d.o.b. for hardwoods.

**Seedlings.**--Live trees less than 1 inch d.b.h. that are expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

**Short-log (rough tree).**--Sawtimber-size trees of commercial species that contain at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

**Site class.**--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

**Site index.**--An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

**Softwoods.**--Coniferous trees, usually evergreen, having needles or scale-like leaves.

**Stand.**--A growth of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

**Stand-age class.**--Age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

**Stand-area class.**--The extent of a continuous forested area of the same forest type, stand-size class, and stand-density class.

**Stand-size class.**--A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

a. *Sawtimber stands.*--Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

b. *Poletimber stands.*--Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

c. *Sapling-seedling stands.*--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and/or seedlings.

d. *Nonstocked stands.*--Stands in which stocking of growing-stock trees is less than 16.7 percent.

**State land.**--Land owned either by States or leased to them, for 50 years or more.

**Stocking.**--The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5 inches d.b.h. and larger. In

a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

*Overstocked stands.*--Stands in which stocking of trees is 134.0 percent or more.

*Fully stocked stands.*--Stands in which stocking of trees is from 101.0 to 133.9 percent.

*Medium stocked stands.*--Stands in which stocking of trees is from 61.0 to 100.9 percent.

*Poorly stocked stands.*--Stands in which stocking of trees is from 16.7 to 60.9 percent.

*Nonstocked areas.*--Commercial forest land on which stocking of trees is less than 16.7 percent.

**Timber removals from growing stock.**--The volume of sound wood in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other removals.

**Timber removals from sawtimber.**--The net board-foot volume of live sawtimber trees removed for forest products annually (including roundwood products and logging residues) and for other removals.

**Timber products output.**--All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

**Tree biomass.**--The total aboveground weight (including the bark) of all trees from 1 to 5 inches d.b.h., and the total aboveground weight (including the bark) from a 1-foot stump for trees more than 5 inches in diameter.

**Tree size class.**--A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

**Unproductive forest land.**--Forest land incapable of producing 20 cubic feet per acre of annual growth or of yielding crops of industrial wood under natural conditions because of adverse site conditions. (Note: Adverse conditions include shallow soil, dry climate, poor drainage, high elevation, steepness, and rockiness).

**Upper stem portion.**--That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4 inches outside bark or to the point



where the central stem breaks into limbs.

**Urban and other areas.**--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; schoolyards; cemeteries; roads; railroads; airports; beaches; powerlines; and other rights-of-way; or other nonforest land not included in any other specified land use class.

**Water.**--(a) *Bureau of the Census.*--Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) *Noncensus.*--Permanent inland water sur-

faces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

**Wooded pasture.**--Improved pasture with more than 16.7 percent stocking in live trees but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

**Wooded strip.**--An acre or more of natural continuous forest land that would otherwise meet survey standards for commercial forest land except that it is less than 120 feet wide.

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Table 1.--Area of land by land class, Southwest Unit, Wisconsin, 1968 and 1983

(In thousand acres)

| Land class                   | 1968                  | 1983                  |
|------------------------------|-----------------------|-----------------------|
| Forest land                  |                       |                       |
| Commercial forest land       |                       |                       |
| Jack pine                    | 21.8                  | 11.2                  |
| Red pine                     | 23.4                  | 40.1                  |
| White pine                   | 2.6                   | 13.7                  |
| Balsam fir                   | --                    | --                    |
| White spruce                 | --                    | 2.5                   |
| Black spruce                 | --                    | --                    |
| Northern white-cedar         | --                    | --                    |
| Tamarack                     | --                    | --                    |
| Oak-hickory                  | 867.9                 | 1,063.4               |
| Elm-ash-soft maple           | 93.7                  | 117.8                 |
| Maple-birch                  | 324.9                 | 497.9                 |
| Aspen                        | 75.0                  | 85.7                  |
| Paper birch                  | 34.7                  | 54.4                  |
| Nonstocked                   | 49.1                  | 33.3                  |
| Subtotal                     | 1,493.1               | 1,920.0               |
| Noncommercial forest land    |                       |                       |
| Unproductive                 | 7.0                   | --                    |
| Productive-reserved          | 12.3                  | 38.8                  |
| Subtotal                     | 19.3                  | 38.8                  |
| Total                        | 1,512.4               | 1,958.8               |
| Nonforest land               |                       |                       |
| Cropland                     | 2,935.5               | 2,902.6               |
| Pasture and range            | 743.3                 | 712.5                 |
| Other                        | 987.9                 | 576.6                 |
| Total                        | 4,666.7               | 4,191.7               |
| Total land                   | 6,179.1               | 6,150.5               |
| Water (Bureau of the Census) | 123.6 <sup>1/</sup>   | 136.6 <sup>2/</sup>   |
| Total land and water         | 6,302.7 <sup>1/</sup> | 6,287.1 <sup>2/</sup> |

<sup>1/</sup> U.S. Department of Commerce, Bureau of Census, 1960.

<sup>2/</sup> U.S. Department of Commerce, Bureau of Census, 1980.

Table 2.--Area of land by land use class and county, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Land use class                             | All<br>counties | County  |          |       |       |       |           |           |       |
|--|-----------------|---------|----------|-------|-------|-------|-----------|-----------|-------|
|  |                 | Buffalo | Crawford | Dunn  | Grant | Iowa  | La Crosse | Lafayette | Pepin |
| Forest land                                |                 |         |          |       |       |       |           |           |       |
| Commercial forest                          | 1,920.0         | 187.9   | 167.8    | 170.0 | 184.5 | 136.0 | 121.6     | 37.6      | 53.4  |
| Unproductive forest                        | --              | --      | --       | --    | --    | --    | --        | --        | --    |
| Productive reserved                        | 38.8            | 5.5     | 1.0      | 1.1   | 1.9   | 4.7   | --        | 0.6       | 0.5   |
| Total                                      | 1,958.8         | 193.4   | 168.8    | 171.1 | 186.4 | 140.7 | 121.6     | 38.2      | 53.9  |
| Nonforest land                             |                 |         |          |       |       |       |           |           |       |
| Nonforest with trees                       |                 |         |          |       |       |       |           |           |       |
| Cropland with trees                        | 7.4             | --      | --       | --    | --    | --    | --        | 2.6       | --    |
| Improved pasture with trees                | 115.9           | --      | --       | 2.4   | 9.1   | 31.2  | --        | 26.0      | --    |
| Wooded strips                              | 10.2            | 2.7     | --       | --    | --    | 2.6   | --        | 2.3       | --    |
| Idle farmland with trees                   | 12.5            | --      | --       | 2.4   | --    | 2.7   | --        | 2.4       | --    |
| Marsh with trees                           | 12.7            | 2.8     | --       | 5.0   | --    | --    | --        | --        | --    |
| Urban and other windbreaks                 | 8.7             | --      | --       | 2.6   | --    | --    | 1.2       | --        | --    |
| Windbreaks                                 | 12.2            | --      | --       | --    | --    | --    | --        | --        | --    |
| Wooded pasture                             | 47.4            | --      | 2.8      | 2.6   | 21.2  | 10.6  | --        | 4.7       | --    |
| Subtotal                                   | 227.0           | 5.5     | 2.8      | 15.0  | 30.3  | 47.1  | 1.2       | 38.0      | --    |
| Nonforest without trees                    |                 |         |          |       |       |       |           |           |       |
| Cropland without trees                     | 2,895.2         | 225.7   | 148.0    | 265.4 | 415.8 | 235.1 | 113.9     | 226.7     | 62.7  |
| Improved pasture without trees             | 549.2           | 5.2     | 7.5      | 41.3  | 72.3  | 43.2  | --        | 95.3      | 19.2  |
| Idle farm without trees                    | 20.5            | --      | --       | --    | --    | 7.7   | --        | --        | --    |
| Marsh without trees                        | 55.1            | 2.5     | 5.0      | 9.9   | --    | --    | 13.3      | --        | 4.8   |
| Other farm-farmstead                       | 66.0            | 2.5     | 2.5      | 2.4   | 7.5   | --    | --        | 2.6       | 2.4   |
| Urban and other                            | 372.1           | 12.8    | 27.5     | 41.1  | 19.9  | 12.7  | 42.6      | 5.1       | 4.8   |
| Noncensus water                            | 6.6             | --      | --       | --    | --    | --    | --        | --        | --    |
| Subtotal                                   | 3,964.7         | 248.7   | 190.5    | 360.1 | 515.5 | 298.7 | 169.8     | 329.7     | 93.9  |
| Total                                      | 4,191.7         | 254.2   | 193.3    | 375.1 | 545.8 | 345.8 | 171.0     | 367.7     | 93.9  |
| Total land                                 | 6,150.5         | 447.6   | 362.1    | 546.2 | 732.2 | 486.5 | 292.6     | 405.9     | 147.8 |
| Water (Bureau of the Census) <sup>1/</sup> | 136.6           | 6.6     | 20.7     | 6.5   | 23.8  | 4.1   | 14.8      | 11.1      | 11.1  |
| Total land and water <sup>1/</sup>         | 6,287.1         | 454.2   | 382.8    | 552.7 | 756.0 | 490.6 | 307.4     | 417.0     | 158.9 |

(Table 2 continued on next page)

<sup>1/</sup>U.S. Department of Commerce, Bureau of Census, 1980.



(Table 2 continued)

| Land use class                             | County |          |           |       |             |        |
|--|--------|----------|-----------|-------|-------------|--------|
|  | Pierce | Richland | St. Croix | Sauk  | Trempealeau | Vernon |
| Forest land                                |        |          |           |       |             |        |
| Commercial forest                          | 100.6  | 158.7    | 72.9      | 181.7 | 147.0       | 200.3  |
| Unproductive forest                        | --     | --       | --        | --    | --          | --     |
| Productive reserved                        | 1.5    | 0.7      | 4.8       | 10.3  | 4.1         | 2.1    |
| Total                                      | 102.1  | 159.4    | 77.7      | 192.0 | 151.1       | 202.4  |
| Nonforest land                             |        |          |           |       |             |        |
| Nonforest with trees                       |        |          |           |       |             |        |
| Cropland with trees                        | --     | --       | --        | 4.8   | --          | --     |
| Improved pasture with trees                | 9.7    | 2.2      | 4.9       | 7.3   | 18.1        | 5.0    |
| Wooded strips                              | --     | --       | --        | --    | 2.6         | --     |
| Idle farmland with trees                   | --     | --       | --        | 2.5   | --          | 2.5    |
| Marsh with trees                           | 2.4    | --       | --        | --    | --          | 2.5    |
| Urban and other windbreaks                 | 4.9    | --       | --        | --    | --          | --     |
| Windbreaks                                 | 4.9    | --       | --        | 4.8   | 2.5         | --     |
| Wooded pasture                             | --     | 2.8      | --        | --    | 2.7         | --     |
| Subtotal                                   | 21.9   | 5.0      | 4.9       | 19.4  | 25.9        | 10.0   |
| Nonforest without trees                    |        |          |           |       |             |        |
| Cropland without trees                     | 181.8  | 149.3    | 285.7     | 219.0 | 184.1       | 182.0  |
| Improved pasture without trees             | 24.4   | 38.2     | 27.3      | 34.0  | 61.3        | 80.0   |
| Idle farm without trees                    | 2.4    | --       | 7.9       | 2.5   | --          | --     |
| Marsh without trees                        | 2.4    | 2.2      | 2.5       | 4.9   | 7.6         | --     |
| Other farm-farmstead                       | 9.7    | 6.8      | 7.4       | 14.5  | 5.2         | 2.5    |
| Urban and other                            | 24.3   | 13.2     | 46.7      | 48.3  | 33.1        | 40.0   |
| Noncensus water                            | --     | --       | 2.4       | 1.6   | 2.6         | --     |
| Subtotal                                   | 245.0  | 209.7    | 379.9     | 324.8 | 293.9       | 304.5  |
| Total                                      | 266.9  | 214.7    | 384.8     | 344.2 | 319.8       | 314.5  |
| Total land                                 | 369.0  | 374.1    | 462.5     | 536.2 | 470.9       | 516.9  |
| Water (Bureau of the Census) <sup>1/</sup> | 9.7    | 3.8      | 8.5       | 6.7   | 3.9         | 5.3    |
| Total land and water <sup>1/</sup>         | 378.7  | 377.9    | 471.0     | 542.9 | 474.8       | 522.2  |

<sup>1/</sup>U.S. Department of Commerce, Bureau of Census, 1980.

Table 3.--Area of commercial forest land by ownership class and county, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Species group | All owners | Ownership class |               |       |                    |        |                 |         |
|---------------|------------|-----------------|---------------|-------|--------------------|--------|-----------------|---------|
|               |            | National Forest | Misc. federal | State | County & municipal | Indian | Forest industry | Farmer  |
| Buffalo       | 187.9      | --              | --            | 5.6   | --                 | --     | --              | 149.4   |
| Crawford      | 167.8      | --              | 8.4           | --    | --                 | --     | --              | 81.1    |
| Dunn          | 170.0      | --              | --            | --    | 2.6                | --     | --              | 91.9    |
| Grant         | 184.5      | --              | 6.2           | 6.0   | 3.1                | --     | --              | 127.0   |
| Iowa          | 136.0      | --              | --            | 8.2   | --                 | --     | --              | 84.4    |
| La Crosse     | 121.6      | --              | 3.3           | 6.6   | --                 | --     | --              | 69.5    |
| Lafayette     | 37.6       | --              | --            | --    | --                 | --     | --              | 28.2    |
| Pepin         | 53.4       | --              | --            | 2.8   | --                 | --     | --              | 42.1    |
| Pierce        | 100.6      | --              | --            | --    | 2.7                | --     | --              | 89.7    |
| Richland      | 158.7      | --              | --            | --    | --                 | --     | --              | 103.0   |
| St. Croix     | 72.9       | --              | --            | 5.6   | --                 | --     | --              | 31.0    |
| Sauk          | 181.7      | --              | --            | --    | 2.5                | --     | --              | 111.9   |
| Trempealeau   | 147.0      | --              | --            | --    | --                 | --     | --              | 118.2   |
| Vernon        | 200.3      | --              | 11.9          | --    | --                 | --     | --              | 128.5   |
| All counties  | 1,920.0    | --              | 29.8          | 34.8  | 10.9               | --     | --              | 1,255.9 |
|               |            |                 |               |       |                    |        |                 | 92.8    |
|               |            |                 |               |       |                    |        |                 | 495.8   |

Table 4.--Area of commercial forest land by ownership class and site class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Ownership class           | All classes | Site class (cubic feet of growth per acre per year) |         |         |        |       |       |    |
|---------------------------|-------------|---|---------|---------|--------|-------|-------|----|
|                           |             | 225+  | 165-224 | 120-164 | 85-119 | 50-84 | 20-49 |    |
| National Forest           | --          | --  | --      | --      | --     | --    | --    | -- |
| Miscellaneous federal     | 29.8        | --  | --      | --      | 14.4   | 9.0   | 6.4   | -- |
| State                     | 34.8        | --  | --      | --      | 8.8    | 11.6  | 14.4  | -- |
| County and municipal      | 10.9        | --  | --      | --      | --     | --    | 10.9  | -- |
| Indian                    | --          | --  | --      | --      | --     | --    | --    | -- |
| Forest industry           | --          | --  | --      | --      | --     | --    | --    | -- |
| Farmer                    | 1,255.9     | --  | --      | 42.8    | 299.8  | 534.2 | 379.1 | -- |
| Misc. private-corporation | 92.8        | --  | --      | --      | 24.0   | 40.3  | 28.5  | -- |
| Misc. private-individual  | 495.8       | --  | --      | 26.1    | 109.7  | 211.3 | 148.7 | -- |
| All owners                | 1,920.0     | --  | --      | 68.9    | 456.7  | 806.4 | 588.0 | -- |



Table 5.--Area of commercial forest land by ownership class and stand-volume class, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Ownership class           | All classes | Stand-volume class (board feet <sup>1/</sup> ) |                |        |
|---------------------------|-------------|--|----------------|--------|
|                           |             | Less than 1,500                                | 1,500 to 5,000 | 5,000+ |
| National Forest           | --          | --   | --             | --     |
| Miscellaneous federal     | 29.8        | 14.9   | 9.0            | 5.9    |
| State                     | 34.8        | 17.3   | 11.7           | 5.8    |
| County and municipal      | 10.9        | 10.9   | --             | --     |
| Indian                    | --          | --   | --             | --     |
| Forest industry           | --          | --   | --             | --     |
| Farmer                    | 1,255.9     | 407.4  | 586.8          | 261.7  |
| Misc. private-corporation | 92.8        | 32.4   | 57.3           | 3.1    |
| Misc. private-individual  | 495.8       | 215.6  | 199.6          | 80.6   |
| All owners                | 1,920.0     | 698.5  | 864.4          | 357.1  |

<sup>1/</sup>International 1/4-inch rule.

Table 6.--Area of privately owned commercial forest land by ownership class, owner tenure, and size of holding, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Ownership class<br>and owner tenure class | All<br>sizes | Size of holding (acres) |      |       |       |        |             |               |                 |       |
|---|--------------|-------------------------|------|-------|-------|--------|-------------|---------------|-----------------|-------|
|   |              | 1-4                     | 5-10 | 11-20 | 21-50 | 51-100 | 101-<br>500 | 501-<br>2,500 | 2,501-<br>5,000 | 5001+ |
| Forest industry                           |              |                         |      |       |       |        |             |               |                 |       |
| 1-4 years                                 | --           | --                      | --   | --    | --    | --     | --          | --            | --              | --    |
| 5-9 years                                 | --           | --                      | --   | --    | --    | --     | --          | --            | --              | --    |
| 10-19 years                               | --           | --                      | --   | --    | --    | --     | --          | --            | --              | --    |
| 20+ years                                 | --           | --                      | --   | --    | --    | --     | --          | --            | --              | --    |
| All classes                               | --           | --                      | --   | --    | --    | --     | --          | --            | --              | --    |
| Farmer                                    |              |                         |      |       |       |        |             |               |                 |       |
| 1-4 years                                 | 225.1        | --                      | --   | 16.3  | 60.2  | 53.7   | 91.7        | --            | 3.2             | --    |
| 5-9 years                                 | 298.1        | 5.6                     | --   | 11.0  | 82.9  | 84.0   | 108.5       | 6.1           | --              | --    |
| 10-19 years                               | 383.3        | 2.7                     | 5.5  | 15.8  | 111.6 | 100.6  | 141.7       | 5.4           | --              | --    |
| 20+ years                                 | 349.4        | 5.4                     | 14.1 | 7.4   | 79.0  | 123.4  | 120.1       | --            | --              | --    |
| All classes                               | 1,255.9      | 13.7                    | 19.6 | 50.5  | 333.7 | 361.7  | 462.0       | 11.5          | 3.2             | --    |
| Misc. priv.-corporation                   |              |                         |      |       |       |        |             |               |                 |       |
| 1-4 years                                 | 25.1         | --                      | --   | --    | 5.6   | 5.5    | 11.2        | 2.8           | --              | --    |
| 5-9 years                                 | 25.6         | --                      | --   | --    | 5.4   | 5.6    | 11.9        | 2.7           | --              | --    |
| 10-19 years                               | 28.2         | --                      | --   | --    | 3.3   | 8.9    | 13.2        | 2.8           | --              | --    |
| 20+ years                                 | 13.9         | --                      | --   | --    | 2.7   | --     | 8.5         | 2.7           | --              | --    |
| All classes                               | 92.8         | --                      | --   | --    | 17.0  | 20.0   | 44.8        | 11.0          | --              | --    |
| Misc. priv.-individual                    |              |                         |      |       |       |        |             |               |                 |       |
| 1-4 years                                 | 132.8        | --                      | 6.0  | 17.1  | 49.2  | 29.3   | 28.2        | 3.0           | --              | --    |
| 5-9 years                                 | 136.9        | --                      | 12.8 | 2.6   | 48.6  | 33.5   | 39.4        | --            | --              | --    |
| 10-19 years                               | 160.8        | 2.4                     | 5.3  | 16.9  | 41.2  | 36.7   | 49.6        | 8.7           | --              | --    |
| 20+ years                                 | 65.3         | --                      | --   | 4.9   | 17.0  | 11.0   | 27.0        | 5.4           | --              | --    |
| All classes                               | 495.8        | 2.4                     | 24.1 | 41.5  | 156.0 | 110.5  | 144.2       | 17.1          | --              | --    |
| All private owners                        |              |                         |      |       |       |        |             |               |                 |       |
| 1-4 years                                 | 383.0        | --                      | 6.0  | 33.4  | 115.0 | 88.5   | 131.1       | 5.8           | 3.2             | --    |
| 5-9 years                                 | 460.6        | 5.6                     | 12.8 | 13.6  | 136.9 | 123.1  | 159.8       | 8.8           | --              | --    |
| 10-19 years                               | 572.3        | 5.1                     | 10.8 | 32.7  | 156.1 | 146.2  | 204.5       | 16.9          | --              | --    |
| 20+ years                                 | 428.6        | 5.4                     | 14.1 | 12.3  | 98.7  | 134.4  | 155.6       | 8.1           | --              | --    |
| All classes                               | 1,844.5      | 16.1                    | 43.7 | 92.0  | 506.7 | 492.2  | 651.0       | 39.6          | 3.2             | --    |

Table 7.--Area of commercial forest land by forest type, stand-size class, and ownership class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Forest type and<br>stand-size class | Ownership class |                    |                  |       |                       |        |                    |        |
|-------------------------------------|-----------------|--------------------|------------------|-------|-----------------------|--------|--------------------|--------|
|                                     | All<br>owners   | National<br>Forest | Misc.<br>federal | State | County &<br>municipal | Indian | Forest<br>industry | Farmer |
| Jack pine                           |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | 5.9             | --                 | --               | --    | --                    | --     | --                 | 5.9    |
| Polettimmer                         | 2.5             | --                 | --               | --    | 2.5                   | --     | --                 | --     |
| Sapling & seedling                  | 2.8             | --                 | --               | --    | --                    | --     | --                 | 2.8    |
| All stands                          | 11.2            | --                 | --               | --    | 2.5                   | --     | --                 | 8.7    |
| Red pine                            |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | 3.3             | --                 | --               | --    | --                    | --     | --                 | 3.3    |
| Polettimmer                         | 26.2            | --                 | --               | --    | --                    | --     | --                 | 8.1    |
| Sapling & seedling                  | 10.6            | --                 | --               | --    | --                    | --     | --                 | --     |
| All stands                          | 40.1            | --                 | --               | --    | --                    | --     | --                 | 11.4   |
| White pine                          |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | 3.4             | --                 | --               | --    | --                    | --     | --                 | --     |
| Polettimmer                         | 2.6             | --                 | --               | --    | --                    | --     | --                 | 2.6    |
| Sapling & seedling                  | 7.7             | --                 | 2.5              | --    | --                    | --     | --                 | 2.6    |
| All stands                          | 13.7            | --                 | 2.5              | --    | --                    | --     | --                 | 5.2    |
| Balsam fir                          |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Polettimmer                         | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Sapling & seedling                  | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| All stands                          | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| White spruce                        |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Polettimmer                         | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Sapling & seedling                  | 2.5             | --                 | --               | --    | --                    | --     | --                 | --     |
| All stands                          | 2.5             | --                 | --               | --    | --                    | --     | --                 | --     |
| Black spruce                        |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Polettimmer                         | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Sapling & seedling                  | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| All stands                          | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Northern white-cedar                |                 |                    |                  |       |                       |        |                    |        |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Polettimmer                         | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| Sapling & seedling                  | --              | --                 | --               | --    | --                    | --     | --                 | --     |
| All stands                          | --              | --                 | --               | --    | --                    | --     | --                 | --     |

(Table 7 continued on next page)



(Table 7 continued)

| Forest type and<br>stand-size class | Ownership class |                    |                  |       |                       |        |                    |         |                          |                           |
|-------------------------------------|-----------------|--------------------|------------------|-------|-----------------------|--------|--------------------|---------|--------------------------|---------------------------|
|                                     | All<br>owners   | National<br>Forest | Misc.<br>federal | State | County &<br>municipal | Indian | Forest<br>industry | Farmer  | Misc.<br>priv.-<br>corp. | Misc.<br>priv.-<br>indiv. |
| Tamarack                            |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Polettimber                         | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Sapling & seedling                  | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| All stands                          | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Oak-hickory                         |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 732.6           | --                 | --               | 9.0   | --                    | --     | --                 | 527.0   | 31.7                     | 164.9                     |
| Polettimber                         | 187.7           | --                 | --               | --    | --                    | --     | --                 | 118.3   | 13.7                     | 55.7                      |
| Sapling & seedling                  | 143.1           | --                 | --               | 6.1   | --                    | --     | --                 | 67.5    | 8.2                      | 61.3                      |
| All stands                          | 1,063.4         | --                 | --               | 15.1  | --                    | --     | --                 | 712.8   | 53.6                     | 281.9                     |
| Elm-ash-soft maple                  |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 64.9            | --                 | 14.9             | 5.8   | --                    | --     | --                 | 29.8    | 8.3                      | 6.1                       |
| Polettimber                         | 17.5            | --                 | 3.3              | 2.7   | --                    | --     | --                 | 5.6     | 3.0                      | 2.9                       |
| Sapling & seedling                  | 35.4            | --                 | 2.8              | 5.6   | 2.6                   | --     | --                 | 16.0    | --                       | 8.4                       |
| All stands                          | 117.8           | --                 | 21.0             | 14.1  | 2.6                   | --     | --                 | 51.4    | 11.3                     | 17.4                      |
| Maple-birch                         |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 223.3           | --                 | 3.1              | --    | --                    | --     | --                 | 162.5   | 12.0                     | 45.7                      |
| Polettimber                         | 119.0           | --                 | --               | --    | --                    | --     | --                 | 80.8    | --                       | 38.2                      |
| Sapling & seedling                  | 155.6           | --                 | --               | 2.8   | 5.8                   | --     | --                 | 104.3   | 2.8                      | 39.9                      |
| All stands                          | 497.9           | --                 | 3.1              | 2.8   | 5.8                   | --     | --                 | 347.6   | 14.8                     | 123.8                     |
| Aspen                               |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 22.1            | --                 | --               | --    | --                    | --     | --                 | 22.1    | --                       | --                        |
| Polettimber                         | 39.1            | --                 | --               | 2.8   | --                    | --     | --                 | 25.3    | --                       | 11.0                      |
| Sapling & seedling                  | 24.5            | --                 | --               | --    | --                    | --     | --                 | 11.4    | 2.5                      | 10.6                      |
| All stands                          | 85.7            | --                 | --               | 2.8   | --                    | --     | --                 | 58.8    | 2.5                      | 21.6                      |
| Paper birch                         |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 18.9            | --                 | --               | --    | --                    | --     | --                 | 16.3    | --                       | 2.6                       |
| Polettimber                         | 27.3            | --                 | --               | --    | --                    | --     | --                 | 19.4    | 2.7                      | 5.2                       |
| Sapling & seedling                  | 8.2             | --                 | --               | --    | --                    | --     | --                 | 5.4     | --                       | 2.8                       |
| All stands                          | 54.4            | --                 | --               | --    | --                    | --     | --                 | 41.1    | 2.7                      | 10.6                      |
| Exotic                              |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Polettimber                         | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Sapling & seedling                  | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| All stands                          | --              | --                 | --               | --    | --                    | --     | --                 | --      | --                       | --                        |
| Nonstocked                          | 33.3            | --                 | 3.2              | --    | --                    | --     | --                 | 18.9    | --                       | 11.2                      |
| All types                           |                 |                    |                  |       |                       |        |                    |         |                          |                           |
| Sawtimber                           | 1,074.4         | --                 | 18.0             | 14.8  | --                    | --     | --                 | 766.9   | 52.0                     | 222.7                     |
| Polettimber                         | 421.9           | --                 | 3.3              | 5.5   | 2.5                   | --     | --                 | 260.1   | 22.0                     | 128.5                     |
| Sapling & seedling                  | 390.4           | --                 | 5.3              | 14.5  | 8.4                   | --     | --                 | 210.0   | 18.8                     | 133.4                     |
| Nonstocked                          | 33.3            | --                 | 3.2              | --    | --                    | --     | --                 | 18.9    | --                       | 11.2                      |
| All stands                          | 1,920.0         | --                 | 29.8             | 34.8  | 10.9                  | --     | --                 | 1,255.9 | 92.8                     | 495.8                     |

Table 8.--Area of commercial forest land by forest type and county, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Forest type          | All counties | County  |          |       |       |       |           |           |       |
|----------------------|--------------|---------|----------|-------|-------|-------|-----------|-----------|-------|
|                      |              | Buffalo | Crawford | Dunn  | Grant | Iowa  | La Crosse | Lafayette | Pepin |
| Jack pine            | 11.2         | --      | --       | 2.6   | --    | --    | 3.3       | --        | 2.8   |
| Red pine             | 40.1         | --      | --       | 13.1  | --    | 2.7   | 3.3       | --        | --    |
| White pine           | 13.7         | --      | --       | --    | --    | --    | 3.4       | --        | --    |
| Balsam fir           | --           | --      | --       | --    | --    | --    | --        | --        | --    |
| White spruce         | 2.5          | --      | --       | --    | --    | --    | --        | --        | --    |
| Black spruce         | --           | --      | --       | --    | --    | --    | --        | --        | --    |
| Northern white-cedar | --           | --      | --       | --    | --    | --    | --        | --        | --    |
| Tamarack             | --           | --      | --       | --    | --    | --    | --        | --        | --    |
| Oak-hickory          | 1,063.4      | 121.8   | 103.5    | 78.6  | 124.0 | 100.9 | 79.3      | 21.2      | 25.3  |
| Elm-ash-soft maple   | 117.8        | 13.8    | 19.6     | 10.4  | 12.2  | 8.3   | 6.6       | --        | 8.4   |
| Maple-birch          | 497.9        | 13.8    | 33.5     | 52.3  | 42.2  | 16.0  | 13.2      | 16.4      | 11.3  |
| Aspen                | 85.7         | 16.6    | --       | 7.8   | 6.1   | 2.7   | 9.2       | --        | 2.8   |
| Paper birch          | 54.4         | 19.1    | 5.6      | 5.2   | --    | 2.7   | 3.3       | --        | 2.8   |
| Exotic               | --           | --      | --       | --    | --    | --    | --        | --        | --    |
| Nonstocked           | 33.3         | 2.8     | 5.6      | --    | --    | 2.7   | --        | --        | --    |
| All types            | 1,920.0      | 187.9   | 167.8    | 170.0 | 184.5 | 136.0 | 121.6     | 37.6      | 53.4  |

(Table 8 continued)

(Table 8 continued)

| Forest type          | County |          |          |       |             |        |
|----------------------|--------|----------|----------|-------|-------------|--------|
|                      | Pierce | Richland | St.Croix | Sauk  | Trempealeau | Vernon |
| Jack pine            | --     | --       | --       | 2.5   | --          | --     |
| Red pine             | --     | --       | 8.1      | 5.0   | 7.9         | --     |
| White pine           | --     | --       | --       | --    | 7.8         | 2.5    |
| Balsam fir           | --     | --       | --       | --    | --          | --     |
| White spruce         | --     | --       | 2.5      | --    | --          | --     |
| Black spruce         | --     | --       | --       | --    | --          | --     |
| Northern white-cedar | --     | --       | --       | --    | --          | --     |
| Tamarack             | --     | --       | --       | --    | --          | --     |
| Oak-hickory          | 24.8   | 61.4     | 19.9     | 104.5 | 78.8        | 119.4  |
| Elm-ash-soft maple   | 5.5    | 5.5      | 11.3     | 2.5   | 10.6        | 3.1    |
| Maple-birch          | 56.9   | 89.0     | 5.7      | 57.2  | 18.3        | 72.1   |
| Aspen                | 8.2    | 2.8      | 16.8     | 7.5   | 5.2         | --     |
| Paper birch          | --     | --       | --       | --    | 15.7        | --     |
| Exotic               | --     | --       | --       | --    | --          | --     |
| Nonstocked           | 5.2    | --       | 8.6      | 2.5   | 2.7         | 3.2    |
| All types            | 100.6  | 158.7    | 72.9     | 181.7 | 147.0       | 200.3  |

Table 9.--Area of commercial forest land by county and stand-size class, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| County       | All stands | Stand-size class |                   |                             |                  |
|--------------|------------|------------------|-------------------|-----------------------------|------------------|
|              |            | Sawtimber stands | Poletimber stands | Sapling and seedling stands | Nonstocked areas |
| Buffalo      | 187.9      | 127.1            | 38.5              | 19.5                        | 2.8              |
| Crawford     | 167.8      | 98.0             | 30.7              | 33.5                        | 5.6              |
| Dunn         | 170.0      | 75.9             | 57.6              | 36.5                        | --               |
| Grant        | 184.5      | 133.2            | 30.1              | 21.2                        | --               |
| Iowa         | 136.0      | 65.5             | 38.1              | 29.7                        | 2.7              |
| La Crosse    | 121.6      | 86.0             | 19.9              | 15.7                        | --               |
| Lafayette    | 37.6       | 23.5             | 2.4               | 11.7                        | --               |
| Pepin        | 53.4       | 30.9             | 11.2              | 11.3                        | --               |
| Pierce       | 100.6      | 46.7             | 21.8              | 26.9                        | 5.2              |
| Richland     | 158.7      | 75.1             | 36.2              | 47.4                        | --               |
| St. Croix    | 72.9       | 11.2             | 31.4              | 21.7                        | 8.6              |
| Sauk         | 181.7      | 74.5             | 42.4              | 62.3                        | 2.5              |
| Trempealeau  | 147.0      | 76.2             | 36.6              | 31.5                        | 2.7              |
| Vernon       | 200.3      | 150.6            | 25.0              | 21.5                        | 3.2              |
| All counties | 1,920.0    | 1,074.4          | 421.9             | 390.4                       | 33.3             |



Table 10.--Area of commercial forest land by forest type, stand-size class, and site class, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Forest type and stand-size class | All classes | Site class (cubic feet of growth per acre per year) |         |         |        |       |       |
|----------------------------------|-------------|---|---------|---------|--------|-------|-------|
|                                  |             | 225+  | 165-224 | 120-164 | 85-119 | 50-84 | 20-49 |
| Jack pine                        |             |   |         |         |        |       |       |
| Sawtimber                        | 5.9         | --  | --      | --      | --     | --    | 5.9   |
| Poletimber                       | 2.5         | --  | --      | --      | --     | --    | 2.5   |
| Sapling & seedling               | 2.8         | --  | --      | --      | --     | 2.8   | --    |
| All stands                       | 11.2        | --  | --      | --      | --     | 2.8   | 8.4   |
| Red pine                         |             |   |         |         |        |       |       |
| Sawtimber                        | 3.3         | --  | --      | 3.3     | --     | --    | --    |
| Poletimber                       | 26.2        | --  | --      | 18.4    | 7.8    | --    | --    |
| Sapling & seedling               | 10.6        | --  | --      | 2.9     | 5.3    | 2.4   | --    |
| All stands                       | 40.1        | --  | --      | 24.6    | 13.1   | 2.4   | --    |
| White pine                       |             |   |         |         |        |       |       |
| Sawtimber                        | 3.4         | --  | --      | --      | 3.4    | --    | --    |
| Poletimber                       | 2.6         | --  | --      | 2.6     | --     | --    | --    |
| Sapling & seedling               | 7.7         | --  | --      | --      | 5.1    | 2.6   | --    |
| All stands                       | 13.7        | --  | --      | 2.6     | 8.5    | 2.6   | --    |
| Balsam fir                       |             |   |         |         |        |       |       |
| Sawtimber                        | --          | --  | --      | --      | --     | --    | --    |
| Poletimber                       | --          | --  | --      | --      | --     | --    | --    |
| Sapling & seedling               | --          | --  | --      | --      | --     | --    | --    |
| All stands                       | --          | --  | --      | --      | --     | --    | --    |
| White spruce                     |             |   |         |         |        |       |       |
| Sawtimber                        | --          | --  | --      | --      | --     | --    | --    |
| Poletimber                       | --          | --  | --      | --      | --     | --    | --    |
| Sapling & seedling               | 2.5         | --  | --      | --      | --     | 2.5   | --    |
| All stands                       | 2.5         | --  | --      | --      | --     | 2.5   | --    |
| Black spruce                     |             |   |         |         |        |       |       |
| Sawtimber                        | --          | --  | --      | --      | --     | --    | --    |
| Poletimber                       | --          | --  | --      | --      | --     | --    | --    |
| Sapling & seedling               | --          | --  | --      | --      | --     | --    | --    |
| All stands                       | --          | --  | --      | --      | --     | --    | --    |
| Northern white-cedar             |             |   |         |         |        |       |       |
| Sawtimber                        | --          | --  | --      | --      | --     | --    | --    |
| Poletimber                       | --          | --  | --      | --      | --     | --    | --    |
| Sapling & seedling               | --          | --  | --      | --      | --     | --    | --    |
| All stands                       | --          | --  | --      | --      | --     | --    | --    |

(Table 10 continued on next page)

(Table 10 continued)

| Forest type and<br>stand-size class | All<br>classes | Site class (cubic feet of growth per acre per year) |         |         |        |       |       |
|-------------------------------------|----------------|---|---------|---------|--------|-------|-------|
|                                     |                | 225+  | 165-224 | 120-164 | 85-119 | 50-84 | 20-49 |
| Tamarack                            |                |   |         |         |        |       |       |
| Sawtimber                           | --             | --  | --      | --      | --     | --    | --    |
| Poletimber                          | --             | --  | --      | --      | --     | --    | --    |
| Sapling & seedling                  | --             | --  | --      | --      | --     | --    | --    |
| All stands                          | --             | --  | --      | --      | --     | --    | --    |
| Oak-hickory                         |                |   |         |         |        |       |       |
| Sawtimber                           | 732.6          | --  | --      | 5.6     | 147.2  | 365.8 | 214.0 |
| Poletimber                          | 187.7          | --  | --      | --      | 53.2   | 86.8  | 47.7  |
| Sapling & seedling                  | 143.1          | --  | --      | 2.5     | 29.8   | 69.8  | 41.0  |
| All stands                          | 1,063.4        | --  | --      | 8.1     | 230.2  | 522.4 | 302.7 |
| Elm-ash-soft maple                  |                |   |         |         |        |       |       |
| Sawtimber                           | 64.9           | --  | --      | --      | 14.0   | 28.3  | 22.6  |
| Poletimber                          | 17.5           | --  | --      | --      | 2.8    | 2.9   | 11.8  |
| Sapling & seedling                  | 35.4           | --  | --      | --      | 5.1    | 8.4   | 21.9  |
| All stands                          | 117.8          | --  | --      | --      | 21.9   | 39.6  | 56.3  |
| Maple-birch                         |                |   |         |         |        |       |       |
| Sawtimber                           | 223.3          | --  | --      | 5.2     | 31.1   | 102.1 | 84.9  |
| Poletimber                          | 119.0          | --  | --      | 5.3     | 59.7   | 29.1  | 24.9  |
| Sapling & seedling                  | 155.6          | --  | --      | 9.0     | 26.1   | 56.5  | 64.0  |
| All stands                          | 497.9          | --  | --      | 19.5    | 116.9  | 187.7 | 173.8 |
| Aspen                               |                |   |         |         |        |       |       |
| Sawtimber                           | 22.1           | --  | --      | 2.8     | 16.5   | --    | 2.8   |
| Poletimber                          | 39.1           | --  | --      | 2.7     | 16.4   | 13.8  | 6.2   |
| Sapling & seedling                  | 24.5           | --  | --      | 2.5     | 14.0   | 2.8   | 5.2   |
| All stands                          | 85.7           | --  | --      | 8.0     | 46.9   | 16.6  | 14.2  |
| Paper birch                         |                |   |         |         |        |       |       |
| Sawtimber                           | 18.9           | --  | --      | 2.8     | 2.7    | 10.7  | 2.7   |
| Poletimber                          | 27.3           | --  | --      | 3.3     | 5.2    | 8.0   | 10.8  |
| Sapling & seedling                  | 8.2            | --  | --      | --      | 2.6    | --    | 5.6   |
| All stands                          | 54.4           | --  | --      | 6.1     | 10.5   | 18.7  | 19.1  |
| Exotic                              |                |   |         |         |        |       |       |
| Sawtimber                           | --             | --  | --      | --      | --     | --    | --    |
| Poletimber                          | --             | --  | --      | --      | --     | --    | --    |
| Sapling & seedling                  | --             | --  | --      | --      | --     | --    | --    |
| All stands                          | --             | --  | --      | --      | --     | --    | --    |
| Nonstocked                          | 33.3           | --  | --      | --      | 8.7    | 11.1  | 13.5  |
| All types                           |                |   |         |         |        |       |       |
| Sawtimber                           | 1,074.4        | --  | --      | 19.7    | 214.9  | 506.9 | 332.9 |
| Poletimber                          | 421.9          | --  | --      | 32.3    | 145.1  | 140.6 | 103.9 |
| Sapling & seedling                  | 390.4          | --  | --      | 16.9    | 88.0   | 147.8 | 137.7 |
| Nonstocked                          | 33.3           | --  | --      | --      | 8.7    | 11.1  | 13.5  |
| All stands                          | 1,920.0        | --  | --      | 68.9    | 456.7  | 806.4 | 588.0 |



Table 11.--Area of commercial forest land by forest type and stand-age class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Forest type          | All<br>ages | Stand-age class (years) |       |       |       |       |       |       |       |       |        |         |         |      |
|----------------------|-------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|------|
|                      |             | 1-10                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 120-140 | 141+ |
| Jack pine            | 11.2        | 2.8                     | --    | --    | 2.6   | 5.8   | --    | --    | --    | --    | --     | --      | --      | --   |
| Red pine             | 40.1        | 2.6                     | 15.8  | --    | 5.9   | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| White pine           | 13.7        | 2.6                     | 7.7   | --    | --    | --    | --    | 3.4   | --    | --    | --     | --      | --      | --   |
| Balsam fir           | --          | --                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| White spruce         | 2.5         | 2.5                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Black spruce         | --          | --                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Northern white-cedar | --          | --                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Tamarack             | --          | --                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Oak-hickory          | 1,063.4     | 94.2                    | 43.1  | 32.0  | 36.3  | 115.9 | 92.6  | 97.0  | 85.7  | 123.0 | 114.2  | 116.5   | 79.0    | 33.9 |
| Elm-ash-soft maple   | 117.8       | 24.2                    | 8.4   | 5.6   | 5.7   | 8.8   | 17.1  | 8.3   | 11.4  | 11.8  | 5.5    | 11.0    | --      | --   |
| Maple-birch          | 497.9       | 77.6                    | 52.6  | 47.4  | 43.7  | 29.2  | 46.9  | 18.9  | 17.7  | 31.1  | 50.5   | 53.7    | 17.3    | 11.3 |
| Aspen                | 85.7        | 7.7                     | 16.0  | 17.4  | 11.0  | 14.3  | 10.9  | 5.6   | --    | --    | 2.8    | --      | --      | --   |
| Paper birch          | 54.4        | 5.4                     | 2.8   | 3.3   | 7.8   | 13.5  | 16.3  | 5.3   | --    | --    | --     | --      | --      | --   |
| Exotic               | --          | --                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Nonstocked           | 33.3        | 33.3                    | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| All types            | 1,920.0     | 252.9                   | 146.4 | 121.5 | 113.0 | 187.5 | 183.8 | 135.1 | 118.2 | 165.9 | 173.0  | 181.2   | 96.3    | 45.2 |

Table 12.--Area of commercial forest land by forest type and site-index class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Forest type          | All<br>classes | Site-index class (feet) |       |       |       |       |       |       |       |      |    |    |
|----------------------|----------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|------|----|----|
|                      |                | 11-20                   | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91+  |    |    |
| Jack pine            | 11.2           | --                      | --    | --    | 2.5   | 8.7   | --    | --    | --    | --   | -- | -- |
| Red pine             | 40.1           | --                      | --    | --    | --    | --    | 12.9  | 13.4  | 13.8  | --   | -- | -- |
| White pine           | 13.7           | --                      | --    | --    | --    | 2.6   | 5.9   | 2.6   | --    | 2.6  | -- | -- |
| Balsam fir           | --             | --                      | --    | --    | --    | --    | --    | --    | --    | --   | -- | -- |
| White spruce         | 2.5            | --                      | --    | --    | 2.5   | --    | --    | --    | --    | --   | -- | -- |
| Black spruce         | --             | --                      | --    | --    | --    | --    | --    | --    | --    | --   | -- | -- |
| Northern white-cedar | --             | --                      | --    | --    | --    | --    | --    | --    | --    | --   | -- | -- |
| Tamarack             | --             | --                      | --    | --    | --    | --    | --    | --    | --    | --   | -- | -- |
| Oak-hickory          | 1,063.4        | --                      | --    | 35.6  | 148.7 | 272.0 | 257.9 | 217.5 | 89.9  | --   | -- | -- |
| Elm-ash-soft maple   | 117.8          | --                      | --    | 5.3   | 5.6   | 25.1  | 37.1  | 22.8  | 13.2  | 8.7  | -- | -- |
| Maple-birch          | 497.9          | --                      | --    | 8.9   | 51.4  | 113.5 | 104.1 | 116.6 | 8.1   | 22.3 | -- | -- |
| Aspen                | 85.7           | --                      | --    | 2.7   | 11.5  | 2.8   | 8.2   | 33.1  | 19.4  | 8.0  | -- | -- |
| Paper birch          | 54.4           | --                      | --    | --    | --    | 13.8  | 10.5  | 13.5  | 10.5  | 6.1  | -- | -- |
| Exotic               | --             | --                      | --    | --    | --    | --    | --    | --    | --    | --   | -- | -- |
| Nonstocked           | 33.3           | --                      | --    | 5.5   | 2.5   | 5.5   | 5.7   | 8.6   | 2.8   | 2.7  | -- | -- |
| All types            | 1,920.0        | --                      | --    | 58.0  | 224.7 | 444.0 | 442.3 | 428.1 | 230.7 | 92.2 | -- | -- |

Table 13.--Area of commercial forest land by forest type, stand-size class, and basal-area class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Forest type and<br>stand-size class | All<br>classes | Basal area class (square feet per acre) |       |       |       |       |       |       |       |       |        |         |         |         |      |
|-------------------------------------|----------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|------|
|                                     |                | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 | 181+ |
| Jack pine                           |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 5.9            | --                                      | --    | --    | --    | --    | --    | --    | --    | 2.6   | --     | --      | 3.3     | --      | --   |
| Poletimber                          | 2.5            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | 2.5     | --      | --   |
| Sapling & seedling                  | 2.8            | 2.8                                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 11.2           | 2.8                                     | --    | --    | --    | --    | --    | --    | --    | 2.6   | --     | --      | 5.8     | --      | --   |
| Red pine                            |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 3.3            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | 3.3     | --   |
| Poletimber                          | 26.2           | --                                      | --    | --    | --    | --    | --    | 2.6   | 7.7   | --    | --     | --      | 5.4     | 2.7     | 7.8  |
| Sapling & seedling                  | 10.6           | 2.6                                     | 2.4   | --    | --    | --    | 5.6   | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 40.1           | 2.6                                     | 2.4   | --    | --    | --    | 5.6   | 2.6   | 7.7   | --    | --     | --      | 5.4     | 6.0     | 7.8  |
| White pine                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 3.4            | --                                      | --    | --    | 3.4   | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | 2.6            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | 2.6    | --      | --      | --      | --   |
| Sapling & seedling                  | 7.7            | 2.6                                     | 5.1   | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 13.7           | 2.6                                     | 5.1   | --    | 3.4   | --    | --    | --    | --    | --    | 2.6    | --      | --      | --      | --   |
| Balsam fir                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| White spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | 2.5            | 2.5                                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 2.5            | 2.5                                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Black spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Northern white-cedar                |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |

(Table 13 continued on next page)



(Table 13 continued)

| Forest type and stand-size class | All classes | Basal area class (square feet per acre) |       |       |       |       |       |       |       |       |        |         |         |         |      |
|----------------------------------|-------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|------|
|                                  |             | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 | 181+ |
| Tamarack                         |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Oak-hickory                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 732.6       | --                                      | --    | 8.8   | 10.7  | 25.8  | 44.8  | 48.8  | 89.1  | 112.5 | 83.8   | 173.8   | 101.7   | 30.2    | 2.6  |
| Poletimber                       | 187.7       | --                                      | --    | --    | 3.1   | 2.6   | 11.8  | 19.9  | 19.4  | 27.6  | 25.3   | 50.2    | 19.6    | 5.4     | 2.8  |
| Sapling & seedling               | 143.1       | 5.3                                     | 10.8  | 21.3  | 20.8  | 10.9  | 30.0  | 10.7  | 2.8   | 8.7   | 8.5    | 7.9     | 5.4     | --      | --   |
| All stands                       | 1,063.4     | 5.3                                     | 10.8  | 30.1  | 34.6  | 39.3  | 86.6  | 79.4  | 111.3 | 148.8 | 117.6  | 231.9   | 126.7   | 35.6    | 5.4  |
| Elm-ash-soft maple               |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 64.9        | --                                      | --    | --    | 2.7   | 5.6   | 8.2   | --    | 3.1   | 13.6  | 6.1    | 14.4    | 8.4     | 2.8     | --   |
| Poletimber                       | 17.5        | --                                      | --    | --    | --    | --    | 9.0   | --    | 2.8   | --    | --     | 5.7     | --      | --      | --   |
| Sapling & seedling               | 35.4        | --                                      | 8.3   | 10.9  | 5.2   | 5.5   | 2.7   | --    | --    | --    | --     | --      | 2.8     | --      | --   |
| All stands                       | 117.8       | --                                      | 8.3   | 10.9  | 7.9   | 11.1  | 19.9  | --    | 5.9   | 13.6  | 6.1    | 20.1    | 11.2    | 2.8     | --   |
| Maple-birch                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 223.3       | --                                      | --    | 3.1   | 2.8   | 11.3  | 24.2  | 19.7  | 34.9  | 19.7  | 19.3   | 60.6    | 25.2    | 2.5     | --   |
| Poletimber                       | 119.0       | --                                      | --    | --    | 3.1   | 11.1  | 19.1  | 10.7  | 14.0  | 16.0  | 2.5    | 23.7    | 15.7    | 3.1     | --   |
| Sapling & seedling               | 155.6       | 10.0                                    | 37.8  | 29.8  | 19.0  | 31.3  | 17.4  | 7.5   | 2.8   | --    | --     | --      | --      | --      | --   |
| All stands                       | 497.9       | 10.0                                    | 37.8  | 32.9  | 24.9  | 53.7  | 60.7  | 37.9  | 51.7  | 35.7  | 21.8   | 84.3    | 40.9    | 5.6     | --   |
| Aspen                            |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 22.1        | --                                      | --    | --    | --    | --    | 2.8   | --    | 2.7   | 5.6   | --     | 3.1     | 7.9     | --      | --   |
| Poletimber                       | 39.1        | --                                      | 3.0   | --    | --    | 5.5   | 5.3   | 2.6   | 5.4   | --    | 8.8    | 5.6     | 2.9     | --      | --   |
| Sapling & seedling               | 24.5        | 5.3                                     | --    | --    | 5.8   | 10.6  | 2.8   | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                       | 85.7        | 5.3                                     | 3.0   | --    | 5.8   | 16.1  | 10.9  | 2.6   | 8.1   | 5.6   | 8.8    | 8.7     | 10.8    | --      | --   |
| Paper birch                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 18.9        | --                                      | --    | --    | --    | --    | 2.6   | 5.3   | 2.8   | 5.4   | --     | --      | --      | --      | 2.8  |
| Poletimber                       | 27.3        | --                                      | --    | --    | --    | 6.1   | --    | --    | 5.3   | 2.6   | 2.7    | 2.6     | 8.0     | --      | --   |
| Sapling & seedling               | 8.2         | --                                      | --    | --    | 2.6   | --    | --    | 5.6   | --    | --    | --     | --      | --      | --      | --   |
| All stands                       | 54.4        | --                                      | --    | --    | 2.6   | 6.1   | 2.6   | 10.9  | 8.1   | 8.0   | 2.7    | 2.6     | 8.0     | --      | 2.8  |
| Exotic                           |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Nonstocked                       |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| All types                        | 33.3        | 11.3                                    | --    | 5.6   | --    | --    | 5.6   | 2.5   | 5.6   | --    | --     | 2.7     | --      | --      | --   |
| All types                        |             |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                        | 1,074.4     | --                                      | --    | 11.9  | 19.6  | 42.7  | 82.6  | 73.8  | 132.6 | 159.4 | 109.2  | 251.9   | 146.5   | 38.8    | 5.4  |
| Poletimber                       | 421.9       | --                                      | 3.0   | --    | 6.2   | 25.3  | 45.2  | 33.2  | 49.5  | 53.9  | 39.3   | 90.4    | 54.1    | 11.2    | 10.6 |
| Sapling & seedling               | 390.4       | 31.1                                    | 64.4  | 62.0  | 53.4  | 58.3  | 58.5  | 23.8  | 5.6   | 8.7   | 8.5    | 7.9     | 8.2     | --      | --   |
| Nonstocked                       | 33.3        | 11.3                                    | --    | 5.6   | --    | --    | 5.6   | 2.5   | 5.6   | --    | --     | 2.7     | --      | --      | --   |
| All stands                       | 1,920.0     | 42.4                                    | 67.4  | 79.5  | 79.2  | 126.3 | 191.9 | 133.3 | 193.3 | 222.0 | 157.0  | 352.9   | 208.8   | 50.0    | 16.0 |

Table 14.--Area of commercial forest land by stocking class of growing-stock trees and stand-size class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Stocking class (percent) | Stand-size class |                  |                   |                             |                  |
|--------------------------|------------------|------------------|-------------------|-----------------------------|------------------|
|                          | All stands       | Sawtimber stands | Poletimber stands | Sapling and seedling stands | Nonstocked areas |
| Less than 16.7           | 33.3             | --               | --                | --                          | 33.3             |
| 16.7 to 60.9             | 592.9            | 347.1            | 101.4             | 144.4                       | --               |
| 61.0 to 100.9            | 920.4            | 514.6            | 218.5             | 187.3                       | --               |
| 101.0 to 133.9           | 342.6            | 197.8            | 88.6              | 56.2                        | --               |
| 134.0+                   | 30.8             | 14.9             | 13.4              | 2.5                         | --               |
| All classes              | 1,920.0          | 1,074.4          | 421.9             | 390.4                       | 33.3             |

Table 15.--Area of commercial forest land in plantations by forest type and stand-age class, Southwest Unit, Wisconsin, 1983  
(In thousand acres)

| Forest type  | All ages | Stand-age class (years) |       |       |       |       |       |       |       |       |        |         |         |      |
|--------------|----------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|------|
|              |          | 1-10                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-140 | 141+ |
| Jack pine    | 5.1      | --                      | --    | --    | 2.6   | 2.5   | --    | --    | --    | --    | --     | --      | --      | --   |
| Red pine     | 34.8     | 2.6                     | 10.5  | 15.8  | 5.9   | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| White pine   | 10.3     | 2.6                     | 7.7   | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| White spruce | 2.5      | 2.5                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| Nonstocked   | 3.2      | 3.2                     | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --   |
| All types    | 55.9     | 10.9                    | 18.2  | 15.8  | 8.5   | 2.5   | --    | --    | --    | --    | --     | --      | --      | --   |



Table 16.--Area of commercial forest land with conifer understory by forest type and conifer understory species, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Forest type          | Conifer understory species |            |          |           |            |              |              |         |                      |                  |                 |
|----------------------|----------------------------|------------|----------|-----------|------------|--------------|--------------|---------|----------------------|------------------|-----------------|
|                      | All species                | White pine | Red pine | Jack pine | Balsam fir | White spruce | Black spruce | Hemlock | Northern white-cedar | Eastern redcedar | Other softwoods |
| Jack pine            | 5.3                        | 2.5        | --       | 2.8       | --         | --           | --           | --      | --                   | --               | --              |
| Red pine             | 7.7                        | 2.5        | 2.6      | 2.6       | --         | --           | --           | --      | --                   | --               | --              |
| White pine           | 7.7                        | 7.7        | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Balsam fir           | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| White spruce         | 2.5                        | --         | --       | --        | --         | 2.5          | --           | --      | --                   | --               | --              |
| Black spruce         | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Northern white-cedar | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Tamarack             | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Oak-hickory          | 48.9                       | 11.5       | 2.6      | --        | --         | --           | --           | --      | --                   | 34.8             | --              |
| Elm-ash-soft maple   | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Maple-birch          | 26.7                       | 5.9        | --       | 2.6       | --         | --           | --           | --      | --                   | 18.2             | --              |
| Aspen                | 5.0                        | 2.5        | --       | --        | --         | --           | --           | --      | --                   | 2.5              | --              |
| Paper birch          | 2.8                        | --         | --       | --        | --         | --           | --           | --      | --                   | 2.8              | --              |
| Exotic               | --                         | --         | --       | --        | --         | --           | --           | --      | --                   | --               | --              |
| Nonstocked           | 5.7                        | 3.2        | --       | --        | --         | --           | --           | --      | --                   | 2.5              | --              |
| All types            | 112.3                      | 35.8       | 5.2      | 8.0       | --         | 2.5          | --           | --      | --                   | 60.8             | --              |

Table 17.--Area of noncommercial forest land by ownership class, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Ownership class       | All areas | Productive-reserved areas | Unproductive areas |
|-----------------------|-----------|---------------------------|--------------------|
| National Forest       | --        | --                        | --                 |
| Miscellaneous federal | 7.6       | 7.6                       | --                 |
| State                 | 21.9      | 21.9                      | --                 |
| County and municipal  | 2.6       | 2.6                       | --                 |
| Indian                | --        | --                        | --                 |
| Forest industry       | --        | --                        | --                 |
| Farmer                | 2.3       | 2.3                       | --                 |
| Misc. private-corp.   | 4.4       | 4.4                       | --                 |
| Misc. private-indiv.  | --        | --                        | --                 |
| Total                 | 38.8      | 38.8                      | --                 |

Table 18.--Area of noncommercial forest land by forest type, Southwest Unit, Wisconsin, 1983

(In thousand acres)

| Forest type          | All areas | Productive-reserved areas | Unproductive areas |
|----------------------|-----------|---------------------------|--------------------|
| Jack pine            | --        | --                        | --                 |
| Red pine             | --        | --                        | --                 |
| White pine           | --        | --                        | --                 |
| Balsam fir           | --        | --                        | --                 |
| White spruce         | --        | --                        | --                 |
| Black spruce         | --        | --                        | --                 |
| Northern white-cedar | --        | --                        | --                 |
| Tamarack             | --        | --                        | --                 |
| Oak-hickory          | 14.9      | 14.9                      | --                 |
| Elm-ash-soft maple   | 13.2      | 13.2                      | --                 |
| Maple-birch          | 6.2       | 6.2                       | --                 |
| Aspen                | 1.8       | 1.8                       | --                 |
| Paper birch          | --        | --                        | --                 |
| Exotic               | 2.7       | 2.7                       | --                 |
| Nonstocked           | --        | --                        | --                 |
| All types            | 38.8      | 38.8                      | --                 |

Table 19.--Number of all live trees on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983

(In thousand trees)

| Species group         | All classes | Diameter class (inches at breast height) |         |         |         |          |           |           |           |           |           |           |           |      |    |    |    | 29.0-39.0+ |
|-----------------------|-------------|--|---------|---------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|----|----|----|------------|
|                       |             | 1.0-2.9                                  | 3.0-4.9 | 5.0-6.9 | 7.0-8.9 | 9.0-10.9 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 | 23.0-28.9 | 28.9 |    |    |    |            |
| Softwoods             |             |  |         |         |         |          |           |           |           |           |           |           |           |      |    |    |    |            |
| Jack pine             | 3,482       | 1,026                                    | 998     | 568     | 483     | 239      | 88        | 59        | 21        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Red pine              | 19,474      | 4,065                                    | 2,317   | 7,482   | 4,568   | 773      | 204       | 35        | 8         | 6         | 11        | 5         | --        | --   | -- | -- | -- | --         |
| White pine            | 10,556      | 5,633                                    | 2,912   | 961     | 615     | 104      | 210       | 23        | 24        | 16        | 13        | 13        | 32        | --   | -- | -- | -- | --         |
| White spruce          | 1,682       | 1,076                                    | 538     | 42      | 26      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Black spruce          | 271         | --                                       | --      | 243     | 28      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Balsam fir            | 22          | --                                       | --      | --      | 22      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Hemlock               | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Tamarack              | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Eastern redcedar      | 5,384       | 4,132                                    | 301     | 747     | 115     | 57       | 21        | 11        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Northern white-cedar  | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Other softwoods       | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Total                 | 40,871      | 15,932                                   | 7,066   | 10,043  | 5,857   | 1,173    | 523       | 128       | 53        | 22        | 24        | 18        | 32        | --   | -- | -- | -- | --         |
| Hardwoods             |             |  |         |         |         |          |           |           |           |           |           |           |           |      |    |    |    |            |
| White oak             | 66,813      | 18,689                                   | 11,310  | 9,561   | 7,475   | 6,232    | 5,213     | 3,260     | 2,304     | 1,127     | 711       | 411       | 419       | 95   | 6  | -- | -- | --         |
| Select red oak        | 46,968      | 14,251                                   | 7,339   | 4,819   | 3,042   | 3,913    | 3,490     | 3,272     | 2,539     | 1,686     | 1,054     | 640       | 773       | 148  | 2  | -- | -- | --         |
| Other red oak         | 29,898      | 6,540                                    | 4,564   | 3,303   | 4,291   | 2,615    | 2,993     | 2,060     | 1,586     | 922       | 387       | 201       | 366       | 67   | 3  | -- | -- | --         |
| Select hickory        | 38,582      | 22,336                                   | 4,830   | 4,208   | 3,246   | 1,954    | 1,162     | 516       | 236       | 59        | 28        | 4         | 3         | --   | -- | -- | -- | --         |
| Other hickory         | 45,240      | 28,345                                   | 8,134   | 6,243   | 1,650   | 491      | 271       | 61        | 19        | 20        | 6         | --        | --        | --   | -- | -- | -- | --         |
| Basswood              | 37,310      | 16,664                                   | 7,996   | 3,129   | 3,376   | 2,446    | 1,391     | 916       | 525       | 421       | 170       | 115       | 122       | 31   | 8  | -- | -- | --         |
| Beech                 | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Yellow birch          | 131         | --                                       | --      | --      | 27      | 62       | --        | 31        | 11        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Hard maple            | 47,453      | 29,730                                   | 6,367   | 4,078   | 2,044   | 1,432    | 1,103     | 919       | 612       | 473       | 271       | 130       | 232       | 61   | 1  | -- | -- | --         |
| Soft maple            | 44,929      | 27,021                                   | 6,882   | 4,833   | 2,359   | 1,350    | 955       | 538       | 369       | 257       | 123       | 90        | 93        | 53   | 6  | -- | -- | --         |
| Elm                   | 96,430      | 72,415                                   | 8,861   | 5,564   | 3,591   | 2,752    | 1,561     | 804       | 491       | 179       | 64        | 41        | 75        | 30   | 2  | -- | -- | --         |
| Black ash             | 6,969       | 3,584                                    | 1,406   | 829     | 508     | 305      | 201       | 44        | 53        | 17        | 18        | --        | 4         | --   | -- | -- | -- | --         |
| White & green ash     | 29,317      | 21,240                                   | 2,954   | 1,883   | 1,273   | 762      | 449       | 321       | 260       | 110       | 11        | 16        | 38        | --   | -- | -- | -- | --         |
| Cottonwood            | 1,677       | 522                                      | --      | 609     | 86      | 59       | 139       | 65        | 24        | 59        | 45        | 17        | 25        | 24   | 3  | -- | -- | --         |
| Willow                | 2,864       | 1,320                                    | 813     | 124     | 175     | 165      | 123       | 64        | 31        | 27        | --        | 9         | 10        | 3    | -- | -- | -- | --         |
| Hackberry             | 4,741       | 4,373                                    | --      | 187     | 123     | --       | 38        | 20        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Balsam poplar         | 863         | 807                                      | --      | --      | --      | --       | --        | 41        | 15        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Bigtooth aspen        | 19,616      | 8,650                                    | 2,924   | 2,354   | 1,761   | 1,346    | 1,458     | 581       | 338       | 171       | 19        | 14        | --        | --   | -- | -- | -- | --         |
| Quaking aspen         | 35,893      | 18,108                                   | 4,839   | 6,388   | 2,992   | 1,792    | 1,174     | 415       | 126       | 45        | 14        | --        | --        | --   | -- | -- | -- | --         |
| Paper birch           | 42,114      | 16,440                                   | 11,064  | 4,989   | 5,248   | 2,631    | 1,021     | 474       | 180       | 36        | 28        | --        | 3         | --   | -- | -- | -- | --         |
| River birch           | 2,237       | 516                                      | 817     | 489     | 168     | 74       | 64        | 48        | 39        | --        | 17        | 5         | --        | --   | -- | -- | -- | --         |
| Black cherry          | 39,732      | 26,412                                   | 4,636   | 3,654   | 1,998   | 2,063    | 472       | 354       | 97        | 41        | --        | 5         | --        | --   | -- | -- | -- | --         |
| Black walnut          | 2,199       | 558                                      | --      | 277     | 378     | 367      | 317       | 168       | 59        | 44        | 12        | 16        | 3         | --   | -- | -- | -- | --         |
| Butternut             | 8,305       | 3,657                                    | 554     | 1,200   | 1,295   | 658      | 428       | 248       | 200       | 32        | 12        | 10        | 9         | 2    | -- | -- | -- | --         |
| Other hardwoods       | 26,798      | 17,035                                   | 5,043   | 2,339   | 1,109   | 368      | 457       | 258       | 107       | 36        | 22        | 4         | 20        | --   | -- | -- | -- | --         |
| Noncommercial species | 136,065     | 99,309                                   | 27,609  | 7,524   | 1,425   | 121      | 52        | 25        | --        | --        | --        | --        | --        | --   | -- | -- | -- | --         |
| Total                 | 813,144     | 458,522                                  | 128,942 | 78,584  | 49,640  | 33,958   | 24,532    | 15,503    | 10,221    | 5,762     | 3,012     | 1,728     | 2,195     | 514  | 31 | -- | -- | --         |
| All species           | 854,015     | 474,454                                  | 136,008 | 88,627  | 55,497  | 35,131   | 25,065    | 15,631    | 10,274    | 5,784     | 3,036     | 1,746     | 2,227     | 514  | 31 | -- | -- | --         |



Table 20.--Number of growing-stock trees on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983  
(In thousand trees)

| Species group        | All classes | Diameter class (inches at breast height) |         |         |         |          |           |           |           |           |           |           |           |     |    |    |    | 29.0-39.0+ |  |
|----------------------|-------------|--|---------|---------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|----|----|----|------------|--|
|                      |             | 1.0-2.9                                  | 3.0-4.9 | 5.0-6.9 | 7.0-8.9 | 9.0-10.9 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 | 23.0-28.9 |     |    |    |    |            |  |
| Softwoods            |             |  |         |         |         |          |           |           |           |           |           |           |           |     |    |    |    |            |  |
| Jack pine            | 3,082       | 1,026                                    | 998     | 322     | 449     | 203      | 40        | 44        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Red pine             | 19,316      | 4,065                                    | 2,317   | 7,408   | 4,484   | 773      | 204       | 35        | 8         | 6         | 11        | 5         | --        | --  | -- | -- | -- | --         |  |
| White pine           | 10,108      | 5,373                                    | 2,912   | 892     | 496     | 104      | 210       | 23        | 24        | 16        | 13        | 13        | 32        | --  | -- | -- | -- | --         |  |
| White spruce         | 1,682       | 1,076                                    | 538     | 42      | 26      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Black spruce         | 271         | --                                       | --      | 243     | 28      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Balsam fir           | 22          | --                                       | --      | --      | 22      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Hemlock              | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Tamarack             | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Eastern redcedar     | 3,611       | 2,992                                    | --      | 593     | --      | 15       | --        | 11        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Northern white-cedar | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Other softwoods      | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Total                | 38,092      | 14,532                                   | 6,765   | 9,500   | 5,505   | 1,095    | 454       | 113       | 32        | 22        | 24        | 18        | 32        | --  | -- | -- | -- | --         |  |
| Hardwoods            |             |  |         |         |         |          |           |           |           |           |           |           |           |     |    |    |    |            |  |
| White oak            | 52,588      | 18,162                                   | 8,086   | 7,262   | 5,263   | 4,340    | 3,917     | 2,238     | 1,590     | 772       | 449       | 252       | 219       | 34  | 4  | -- | -- | --         |  |
| Select red oak       | 41,227      | 13,681                                   | 6,536   | 4,122   | 2,673   | 2,943    | 2,923     | 2,808     | 2,076     | 1,496     | 847       | 479       | 569       | 72  | 2  | -- | -- | --         |  |
| Other red oak        | 22,978      | 6,540                                    | 3,660   | 2,221   | 3,446   | 1,573    | 1,950     | 1,360     | 1,088     | 542       | 259       | 119       | 191       | 29  | -- | -- | -- | --         |  |
| Select hickory       | 35,669      | 22,090                                   | 4,235   | 3,400   | 2,778   | 1,486    | 988       | 437       | 169       | 51        | 28        | 4         | 3         | --  | -- | -- | -- | --         |  |
| Other hickory        | 43,844      | 28,345                                   | 7,261   | 6,105   | 1,344   | 470      | 221       | 61        | 11        | 20        | 6         | --        | --        | --  | -- | -- | -- | --         |  |
| Basswood             | 33,678      | 16,383                                   | 6,868   | 2,355   | 3,079   | 2,095    | 1,246     | 718       | 400       | 252       | 131       | 68        | 61        | 19  | 3  | -- | -- | --         |  |
| Beech                | --          | --                                       | --      | --      | --      | --       | --        | --        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Yellow birch         | 121         | --                                       | --      | --      | 27      | 62       | --        | 21        | 11        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Hard maple           | 44,299      | 28,893                                   | 5,845   | 3,947   | 1,777   | 1,095    | 895       | 659       | 474       | 298       | 169       | 82        | 130       | 34  | 1  | -- | -- | --         |  |
| Soft maple           | 42,332      | 27,021                                   | 6,059   | 4,376   | 2,048   | 1,049    | 710       | 426       | 215       | 181       | 94        | 59        | 61        | 29  | 4  | -- | -- | --         |  |
| Elm                  | 90,540      | 70,825                                   | 8,288   | 3,960   | 2,851   | 2,326    | 1,196     | 534       | 304       | 133       | 24        | 19        | 58        | 21  | 1  | -- | -- | --         |  |
| Black ash            | 6,785       | 3,584                                    | 1,406   | 829     | 451     | 221      | 182       | 28        | 53        | 17        | 10        | --        | 4         | --  | -- | -- | -- | --         |  |
| White & green ash    | 27,996      | 20,682                                   | 2,678   | 1,830   | 1,095   | 683      | 435       | 266       | 202       | 80        | 6         | 16        | 23        | --  | -- | -- | -- | --         |  |
| Cottonwood           | 1,385       | 522                                      | --      | 329     | 86      | 59       | 139       | 65        | 24        | 59        | 45        | 17        | 14        | 24  | 2  | -- | -- | --         |  |
| Willow               | 2,214       | 1,059                                    | 552     | 124     | 127     | 165      | 109       | 32        | 11        | 27        | --        | 5         | 3         | --  | -- | -- | -- | --         |  |
| Hackberry            | 4,682       | 4,373                                    | --      | 187     | 64      | --       | 38        | 20        | --        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Balsam poplar        | 863         | 807                                      | --      | --      | --      | --       | --        | 41        | 15        | --        | --        | --        | --        | --  | -- | -- | -- | --         |  |
| Bigtooth aspen       | 19,261      | 8,650                                    | 2,924   | 2,247   | 1,731   | 1,331    | 1,378     | 552       | 307       | 113       | 19        | 9         | --        | --  | -- | -- | -- | --         |  |
| Quaking aspen        | 33,324      | 17,807                                   | 4,570   | 5,330   | 2,572   | 1,551    | 1,052     | 303       | 96        | 29        | 14        | --        | --        | --  | -- | -- | -- | --         |  |
| Paper birch          | 39,934      | 16,180                                   | 10,804  | 4,947   | 4,598   | 2,104    | 825       | 334       | 109       | 28        | 5         | --        | --        | --  | -- | -- | -- | --         |  |
| River birch          | 2,178       | 516                                      | 817     | 489     | 168     | 74       | 46        | 31        | 27        | --        | 5         | 5         | --        | --  | -- | -- | -- | --         |  |
| Black cherry         | 34,916      | 25,092                                   | 3,579   | 2,421   | 1,453   | 1,739    | 365       | 186       | 40        | 41        | 365       | --        | --        | --  | -- | -- | -- | --         |  |
| Black walnut         | 1,841       | 558                                      | --      | 161     | 319     | 283      | 274       | 168       | 23        | 29        | 12        | 11        | 3         | --  | -- | -- | -- | --         |  |
| Butternut            | 5,752       | 3,049                                    | 554     | 583     | 698     | 371      | 240       | 140       | 101       | 8         | --        | --        | 6         | 2   | -- | -- | -- | --         |  |
| Other hardwoods      | 21,473      | 14,580                                   | 4,451   | 1,186   | 845     | 163      | 124       | 93        | --        | --        | 9         | 22        | --        | --  | -- | -- | -- | --         |  |
| Total                | 609,880     | 349,399                                  | 89,173  | 58,411  | 39,493  | 26,183   | 19,253    | 11,521    | 7,346     | 4,185     | 2,145     | 1,145     | 1,345     | 264 | 17 | -- | -- | --         |  |
| All species          | 647,972     | 363,931                                  | 95,938  | 67,911  | 44,998  | 27,278   | 19,707    | 11,634    | 7,378     | 4,207     | 2,169     | 1,163     | 1,377     | 264 | 17 | -- | -- | --         |  |

Table 21.--Net volume of growing stock on  
commercial forest land by species group,  
Southwest Unit, Wisconsin, 1968 and 1983

(In thousand cubic feet)

| Species group        | 1968      | 1983      |
|----------------------|-----------|-----------|
| <b>Softwoods</b>     |           |           |
| Jack pine            | 5,000     | 7,060     |
| Red pine             | 7,400     | 67,514    |
| White pine           | 8,800     | 14,305    |
| White spruce         | --        | 310       |
| Black spruce         | --        | 914       |
| Balsam fir           | --        | 194       |
| Hemlock              | --        | --        |
| Tamarack             | 100       | --        |
| Eastern redcedar     | --        | 1,479     |
| Northern white-cedar | --        | --        |
| Other softwoods      | 200       | --        |
| Total                | 21,500    | 91,776    |
| <b>Hardwoods</b>     |           |           |
| White oak            | 161,500   | 278,311   |
| Select red oak       | 308,000   | 403,571   |
| Other red oak        | 122,200   | 175,245   |
| Select hickory       | 46,300    | 74,011    |
| Other hickory        | 17,300    | 40,083    |
| Basswood             | 62,200    | 124,839   |
| Beech                | --        | --        |
| Yellow birch         | 1,000     | 1,263     |
| Hard maple           | 65,400    | 116,869   |
| Soft maple           | 65,800    | 91,605    |
| Elm                  | 112,500   | 88,963    |
| Black ash            | 8,900     | 14,133    |
| White and green ash  | 22,900    | 44,283    |
| Cottonwood           | 9,800     | 18,288    |
| Willow               | 4,700     | 6,822     |
| Hackberry            | 700       | 1,635     |
| Balsam poplar        | 300       | 1,466     |
| Bigtooth aspen       | 70,000    | 87,754    |
| Quaking aspen        | 66,100    | 79,237    |
| Paper birch          | 38,800    | 91,251    |
| River birch          | 5,100     | 5,940     |
| Black cherry         | 13,100    | 47,829    |
| Black walnut         | 4,900     | 16,233    |
| Butternut            | 7,900     | 21,628    |
| Other hardwoods      | 3,200     | 12,636    |
| Total                | 1,218,600 | 1,843,895 |
| All species          | 1,240,100 | 1,935,671 |

Table 22.--Net volume of all live trees on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Species group         | All classes | Diameter class (inches at breast height) |         |          |           |           |           |           |           |           |           |        |       | 29.0-39.0+ |
|-----------------------|-------------|--|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|-------|------------|
|                       |             | 5.0-6.9                                  | 7.0-8.9 | 9.0-10.9 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 | 23.0-28.9 |        |       |            |
| Softwoods             |             |  |         |          |           |           |           |           |           |           |           |        |       |            |
| Jack pine             | 9,448       | 1,470                                    | 2,677   | 2,287    | 1,338     | 1,193     | 483       | --        | --        | --        | --        | --     | --    |            |
| Red pine              | 68,175      | 27,766                                   | 27,585  | 7,553    | 2,907     | 853       | 294       | 296       | 606       | 315       | --        | --     | --    |            |
| White pine            | 14,713      | 1,563                                    | 2,111   | 963      | 2,865     | 546       | 917       | 704       | 830       | 881       | 3,333     | --     | --    |            |
| White spruce          | 310         | 135                                      | 175     | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Black spruce          | 914         | 722                                      | 192     | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Balsam fir            | 194         | --                                       | 194     | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Hemlock               | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Tamarack              | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Eastern redcedar      | 2,668       | 1,419                                    | 455     | 438      | 196       | 160       | --        | --        | --        | --        | --        | --     | --    |            |
| Northern white-cedar  | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Other softwoods       | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --        | --     | --    |            |
| Total                 | 96,422      | 33,075                                   | 33,389  | 11,241   | 7,306     | 2,752     | 1,694     | 1,000     | 1,436     | 1,196     | 3,333     | --     | --    |            |
| Hardwoods             |             |  |         |          |           |           |           |           |           |           |           |        |       |            |
| White oak             | 389,068     | 19,880                                   | 33,161  | 48,343   | 63,789    | 56,246    | 52,962    | 34,223    | 26,691    | 18,702    | 25,190    | 8,815  | 1,066 |            |
| Select red oak        | 474,928     | 15,595                                   | 18,012  | 36,907   | 50,911    | 68,558    | 70,196    | 61,257    | 47,689    | 34,246    | 54,864    | 16,151 | 542   |            |
| Other red oak         | 257,885     | 7,367                                    | 21,463  | 23,117   | 40,199    | 37,943    | 40,787    | 29,885    | 16,701    | 10,022    | 24,000    | 6,110  | 291   |            |
| Select hickory        | 87,606      | 15,039                                   | 19,041  | 17,745   | 16,031    | 10,010    | 6,227     | 1,920     | 1,184     | 212       | 197       | --     | --    |            |
| Other hickory         | 42,929      | 22,301                                   | 9,676   | 4,637    | 3,709     | 1,269     | 379       | 705       | 253       | --        | --        | --     | --    |            |
| Basswood              | 150,465     | 8,304                                    | 19,328  | 24,376   | 21,527    | 19,833    | 15,438    | 13,998    | 7,671     | 6,147     | 7,930     | 3,750  | 2,163 |            |
| Beech                 | 1,468       | --                                       | --      | 442      | --        | 632       | 281       | --        | --        | --        | --        | --     | --    |            |
| Yellow birch          | 149,877     | 11,723                                   | 12,157  | 13,907   | 16,266    | 19,117    | 17,804    | 16,742    | 11,877    | 7,165     | 16,035    | 6,792  | 292   |            |
| Hard maple            | 114,508     | 15,470                                   | 14,276  | 13,572   | 14,064    | 11,487    | 9,805     | 9,555     | 6,129     | 4,929     | 7,106     | 6,730  | 1,385 |            |
| Soft maple            | 118,225     | 7,651                                    | 15,168  | 22,490   | 21,359    | 16,124    | 13,183    | 6,604     | 2,801     | 2,225     | 5,891     | 4,316  | 413   |            |
| Elm                   | 15,835      | 3,225                                    | 3,040   | 2,996    | 2,800     | 823       | 1,420     | 614       | 718       | --        | 199       | --     | --    |            |
| Black ash             | 50,255      | 5,563                                    | 7,269   | 8,357    | 6,966     | 6,767     | 7,404     | 3,933     | 606       | 924       | 2,466     | --     | --    |            |
| White & green ash     | 19,526      | 608                                      | 476     | 554      | 2,309     | 1,515     | 738       | 2,612     | 2,562     | 1,084     | 2,037     | 3,844  | 1,187 |            |
| Cottonwood            | 9,828       | 133                                      | 770     | 1,520    | 1,828     | 1,259     | 813       | 1,173     | --        | 405       | 1,108     | 819    | --    |            |
| Willow                | 1,844       | 269                                      | 465     | --       | 581       | 529       | --        | --        | --        | --        | --        | --     | --    |            |
| Hackberry             | 1,466       | --                                       | --      | --       | --        | 1,047     | 419       | --        | --        | --        | --        | --     | --    |            |
| Balsam poplar         | 91,861      | 6,601                                    | 11,656  | 15,099   | 25,115    | 14,093    | 10,962    | 6,279     | 1,101     | 955       | --        | --     | --    |            |
| Bigtooth aspen        | 88,871      | 21,600                                   | 18,096  | 17,708   | 17,622    | 7,970     | 3,497     | 1,627     | 751       | --        | --        | --     | --    |            |
| Quaking aspen         | 106,429     | 19,672                                   | 32,179  | 24,835   | 14,155    | 8,839     | 4,434     | 1,239     | 1,004     | --        | 72        | --     | --    |            |
| Paper birch           | 7,088       | 1,191                                    | 930     | 800      | 1,105     | 786       | 1,257     | --        | 676       | 343       | --        | --     | --    |            |
| River birch           | 63,769      | 13,627                                   | 12,415  | 20,217   | 6,809     | 6,667     | 2,363     | 1,456     | --        | 215       | --        | --     | --    |            |
| Black cherry          | 19,420      | 944                                      | 2,382   | 4,008    | 4,287     | 3,510     | 1,317     | 1,472     | 527       | 732       | 241       | --     | --    |            |
| Black walnut          | 35,561      | 3,690                                    | 7,494   | 6,278    | 5,933     | 4,534     | 5,060     | 1,040     | 372       | 333       | 578       | 249    | --    |            |
| Butternut             | 26,895      | 5,856                                    | 5,402   | 2,511    | 4,429     | 3,937     | 2,031     | 937       | 657       | 138       | 997       | --     | --    |            |
| Other hardwoods       | 21,295      | 14,281                                   | 5,194   | 839      | 616       | 365       | --        | --        | --        | --        | --        | --     | --    |            |
| Noncommercial species | 2,346,902   | 220,590                                  | 270,163 | 311,258  | 342,410   | 303,860   | 268,777   | 197,271   | 129,970   | 88,777    | 148,911   | 57,576 | 7,339 |            |
| Total                 | 2,443,324   | 253,665                                  | 303,552 | 322,499  | 349,716   | 306,612   | 270,471   | 198,271   | 131,406   | 89,973    | 152,244   | 57,576 | 7,339 |            |
| All species           |             |  |         |          |           |           |           |           |           |           |           |        |       |            |



Table 23.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Class of timber             | All species | Softwoods | Hardwoods |
|-----------------------------|-------------|-----------|-----------|
| Live trees                  |             |           |           |
| Growing-stock trees         |             |           |           |
| Poletimber                  | 717,804     | 63,898    | 653,906   |
| Sawtimber                   |             |           |           |
| Saw log portion             | 819,296     | 21,419    | 797,877   |
| Upper stem portion          | 398,571     | 6,459     | 392,112   |
| Subtotal                    | 1,217,867   | 27,878    | 1,189,989 |
| Total growing stock         | 1,935,671   | 91,776    | 1,843,895 |
| Cull trees                  |             |           |           |
| Rough and rotten cull trees |             |           |           |
| Poletimber                  | 151,498     | 2,566     | 148,932   |
| Sawtimber                   | 232,722     | 1,910     | 230,812   |
| Subtotal                    | 384,220     | 4,476     | 379,744   |
| Short-log trees             | 123,433     | 170       | 123,263   |
| Total cull                  | 507,653     | 4,646     | 503,007   |
| All live trees              | 2,443,324   | 96,422    | 2,346,902 |
| Salvable dead trees         |             |           |           |
| Growing-stock trees         | 32,932      | 593       | 32,339    |
| Cull trees                  | 2,269       | --        | 2,269     |
| All salvable dead trees     | 35,201      | 593       | 34,608    |
| All classes                 | 2,478,525   | 97,015    | 2,381,510 |

Table 24.--Net volume of all live trees by individual species, Southwest Unit, Wisconsin, 1983

| Species                   | All live trees                          |                  |                   |                          | Total<br>saw log                                      | Saw-log size trees |           |
|---------------------------|---|------------------|-------------------|--------------------------|---|--------------------|-----------|
|                           | Total<br>all live                       | Growing<br>stock | Short-log<br>cull | Rough and<br>rotten cull |   | Sawtimber          | Short-log |
|                           | - - - - - Thousand cubic feet - - - - - |                  |                   |                          | - - - - - Thousand board feet <sup>1/</sup> - - - - - |                    |           |
| Softwoods                 |   |                  |                   |                          |   |                    |           |
| Jack pine                 | 9,448                                   | 7,060            | 170               | 2,218                    | 19,614  | 19,028             | 586       |
| Red pine                  | 68,175                                  | 67,514           | --                | 661                      | 73,260  | 73,260             | --        |
| White pine                | 14,713                                  | 14,305           | --                | 408                      | 57,982  | 57,982             | --        |
| White spruce              | 310                                     | 310              | --                | --                       | --  | --                 | --        |
| Black spruce              | 914                                     | 914              | --                | --                       | --  | --                 | --        |
| Balsam fir                | 194                                     | 194              | --                | --                       | --  | --                 | --        |
| Eastern redcedar          | 2,668                                   | 1,479            | --                | 1,189                    | 1,837   | 1,837              | --        |
| Total                     | 96,422                                  | 91,776           | 170               | 4,476                    | 152,693   | 152,107            | 586       |
| Hardwoods                 |   |                  |                   |                          |   |                    |           |
| White oak                 | 295,360                                 | 217,978          | 25,563            | 51,819                   | 892,790   | 825,634            | 67,156    |
| Swamp white oak           | 9,343                                   | 8,125            | 410               | 808                      | 29,938  | 28,902             | 1,036     |
| Bur oak                   | 84,365                                  | 52,208           | 6,671             | 25,486                   | 201,068   | 183,119            | 17,949    |
| Northern red oak          | 474,928                                 | 403,571          | 24,646            | 46,711                   | 1,754,830   | 1,698,953          | 55,877    |
| Northern pin oak          | 114,828                                 | 68,526           | 8,803             | 37,499                   | 255,117   | 235,070            | 20,047    |
| Black oak                 | 143,057                                 | 106,719          | 12,131            | 24,207                   | 449,917   | 422,350            | 27,567    |
| Shagbark hickory          | 87,606                                  | 74,011           | 1,724             | 11,871                   | 166,277   | 161,696            | 4,581     |
| Bitternut hickory         | 42,851                                  | 40,083           | 246               | 2,522                    | 30,583  | 29,895             | 688       |
| Pignut hickory            | 78                                      | --               | --                | 78                       | --  | --                 | --        |
| American basswood         | 150,465                                 | 124,839          | 5,076             | 20,550                   | 398,246   | 387,042            | 11,204    |
| Yellow birch              | 1,468                                   | 1,263            | --                | 205                      | 3,262   | 3,262              | --        |
| Black maple               | 1,502                                   | 1,309            | 193               | --                       | 7,129   | 6,619              | 510       |
| Sugar maple               | 148,375                                 | 115,560          | 9,745             | 23,070                   | 442,700   | 418,442            | 24,258    |
| Red maple                 | 50,702                                  | 39,969           | 2,761             | 7,972                    | 98,548  | 91,082             | 7,466     |
| Silver maple              | 63,806                                  | 51,636           | 2,888             | 9,282                    | 182,164   | 174,720            | 7,444     |
| American elm              | 81,790                                  | 58,366           | 7,491             | 15,933                   | 165,302   | 146,220            | 19,082    |
| Slippery elm              | 35,376                                  | 29,538           | 1,077             | 4,761                    | 81,456  | 78,721             | 2,735     |
| Rock elm                  | 1,059                                   | 1,059            | --                | --                       | 3,937   | 3,937              | --        |
| Black ash                 | 15,835                                  | 14,133           | 257               | 1,445                    | 31,624  | 30,886             | 738       |
| White ash                 | 40,499                                  | 35,583           | 1,789             | 3,127                    | 104,998   | 100,899            | 4,099     |
| Green ash                 | 9,756                                   | 8,700            | 231               | 825                      | 30,599  | 30,101             | 498       |
| Eastern cottonwood        | 19,526                                  | 18,288           | 734               | 504                      | 76,434  | 73,983             | 2,451     |
| Black willow              | 9,828                                   | 6,822            | 788               | 2,218                    | 21,673  | 19,288             | 2,385     |
| Hackberry                 | 1,844                                   | 1,635            | --                | 209                      | 4,632   | 4,632              | --        |
| Balsam poplar             | 1,466                                   | 1,466            | --                | --                       | 6,428   | 6,428              | --        |
| Bigtooth aspen            | 91,861                                  | 87,754           | 1,719             | 2,388                    | 253,397   | 250,507            | 2,890     |
| Quaking aspen             | 88,871                                  | 79,237           | --                | 9,634                    | 136,605   | 136,605            | --        |
| Paper birch               | 106,429                                 | 91,251           | 2,161             | 13,017                   | 121,007   | 115,121            | 5,886     |
| River birch               | 7,088                                   | 5,940            | 645               | 503                      | 16,050  | 13,929             | 2,121     |
| Black cherry              | 63,769                                  | 47,829           | 1,647             | 14,293                   | 70,654  | 66,409             | 4,245     |
| Black walnut              | 19,420                                  | 16,233           | 478               | 2,709                    | 60,946  | 59,651             | 1,295     |
| Butternut                 | 35,561                                  | 21,628           | 1,990             | 11,943                   | 66,191  | 60,829             | 5,362     |
| Boxelder                  | 21,619                                  | 8,343            | 1,399             | 11,877                   | 18,574  | 13,546             | 5,028     |
| Honeylocust               | 1,193                                   | 1,128            | --                | 65                       | 2,535   | 2,535              | --        |
| Black locust              | 4,083                                   | 3,165            | --                | 918                      | 5,993   | 5,993              | --        |
| Total                     | 2,325,607                               | 1,843,895        | 123,263           | 358,449                  | 6,191,604   | 5,887,006          | 304,598   |
| All species <sup>2/</sup> | 2,422,029                               | 1,935,671        | 123,433           | 362,925                  | 6,344,297   | 6,039,113          | 305,184   |

<sup>1/</sup>International 1/4-inch rule.<sup>2/</sup>These totals do not include volume for noncommercial species. Volumes for individual noncommercial species are found in Table 25.

Table 25.--Net volume of noncommercial species on commercial forest land by individual species, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Species             | Cull volume |
|---------------------|-------------|
| Apple               | 1,104       |
| Eastern hophornbeam | 19,145      |
| Pincherry           | 1,046       |
| All species         | 21,295      |

Table 26.--Net volume of growing stock on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Species group        | All       | County  |          |         |         |         |           |           |        |
|----------------------|-----------|---------|----------|---------|---------|---------|-----------|-----------|--------|
|                      | counties  | Buffalo | Crawford | Dunn    | Grant   | Iowa    | La Crosse | Lafayette | Pepin  |
| Softwoods            |           |         |          |         |         |         |           |           |        |
| Jack pine            | 7,060     | --      | --       | 2,578   | --      | --      | 3,596     | --        | --     |
| Red pine             | 67,514    | 5,415   | --       | 24,472  | --      | 191     | 6,281     | --        | --     |
| White pine           | 14,305    | --      | --       | 1,634   | 1,082   | 2,663   | 2,496     | --        | 168    |
| White spruce         | 310       | --      | --       | --      | --      | --      | --        | --        | --     |
| Black spruce         | 914       | --      | --       | --      | --      | --      | --        | --        | --     |
| Balsam fir           | 194       | --      | --       | --      | --      | --      | --        | --        | --     |
| Hemlock              | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Tamarack             | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Eastern redcedar     | 1,479     | --      | --       | --      | 259     | --      | --        | --        | --     |
| Northern white-cedar | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Other softwoods      | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Total                | 91,776    | 5,415   | --       | 28,684  | 1,341   | 2,854   | 12,373    | --        | 168    |
| Hardwoods            |           |         |          |         |         |         |           |           |        |
| White oak            | 278,311   | 22,624  | 24,513   | 25,775  | 41,746  | 23,203  | 15,884    | 11,487    | 3,382  |
| Select red oak       | 403,571   | 54,034  | 40,838   | 36,716  | 36,821  | 14,001  | 37,183    | 1,896     | 10,063 |
| Other red oak        | 175,245   | 31,029  | 14,009   | 10,999  | 21,539  | 9,940   | 13,929    | 4,126     | 279    |
| Select hickory       | 74,011    | 10,044  | 11,023   | --      | 4,794   | 6,322   | 10,160    | 355       | --     |
| Other hickory        | 40,083    | 235     | 5,627    | 902     | 2,335   | 2,589   | 992       | 182       | --     |
| Basswood             | 124,839   | 5,186   | 10,993   | 9,075   | 12,071  | 6,308   | 5,500     | 3,071     | 4,227  |
| Beech                | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Yellow birch         | 1,263     | --      | --       | 842     | --      | --      | --        | --        | --     |
| Hard maple           | 116,869   | 664     | 11,069   | 11,473  | 10,995  | 3,556   | --        | --        | 2,524  |
| Soft maple           | 91,605    | 4,938   | 14,914   | 15,442  | 9,385   | 2,573   | 4,597     | --        | 5,640  |
| Elm                  | 88,963    | 7,385   | 9,674    | 5,147   | 12,540  | 6,839   | 4,913     | 2,203     | 2,134  |
| Black ash            | 14,133    | --      | 1,835    | 3,016   | 1,129   | 2,171   | 775       | --        | 1,421  |
| White & green ash    | 44,283    | 2,928   | 6,309    | 5,274   | 2,843   | 2,200   | --        | 1,075     | 1,800  |
| Sycamore             | 18,288    | 2,377   | 279      | 320     | 759     | 1,204   | 3,237     | --        | 1,357  |
| Cottonwood           | 6,822     | --      | 1,485    | 499     | --      | 430     | 618       | --        | 1,558  |
| Willow               | 1,635     | 78      | --       | --      | 130     | --      | 110       | --        | --     |
| Hackberry            | 1,466     | 419     | --       | --      | --      | --      | --        | --        | --     |
| Balsam poplar        | 87,754    | 17,395  | 7,610    | 14,380  | 2,592   | 3,036   | 6,159     | --        | 3,813  |
| Bigtooth aspen       | 79,237    | 17,908  | 1,629    | 9,036   | 6,163   | 4,948   | 4,989     | 1,131     | 1,800  |
| Quaking aspen        | 91,251    | 24,350  | 5,405    | 8,389   | 3,534   | 3,208   | 8,463     | --        | 2,774  |
| Paper birch          | 5,940     | 514     | 600      | --      | 2,352   | 1,084   | 968       | --        | 422    |
| Black cherry         | 47,829    | 9,598   | 1,244    | 1,540   | 1,326   | 3,781   | 3,558     | 2,730     | 368    |
| Black walnut         | 16,233    | --      | 3,533    | 262     | 5,813   | 3,207   | --        | 635       | --     |
| Butternut            | 21,628    | 1,110   | 1,628    | 1,357   | 2,094   | 948     | 1,863     | --        | 513    |
| Other hardwoods      | 12,636    | 3,839   | 470      | --      | 458     | 1,727   | 761       | --        | 454    |
| Total                | 1,843,895 | 216,655 | 174,687  | 160,444 | 181,419 | 103,275 | 124,659   | 28,891    | 44,529 |
| All species          | 1,935,671 | 222,070 | 174,687  | 189,128 | 182,760 | 106,129 | 137,032   | 28,891    | 44,697 |

(Table 26 continued on next page)



Erratum-- Please insert this corrected Table 26 on page 36 of Resource Bulletin NC-87

Table 26.--Net volume of growing stock on commercial forest land by species group and county,  
Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Species group        | All       | County  |          |         |         |         |           |           |        |
|----------------------|-----------|---------|----------|---------|---------|---------|-----------|-----------|--------|
|                      | counties  | Buffalo | Crawford | Dunn    | Grant   | Iowa    | La Crosse | Lafayette | Pepin  |
| Softwoods            |           |         |          |         |         |         |           |           |        |
| Jack pine            | 7,060     | --      | --       | 2,578   | --      | --      | 3,596     | --        | --     |
| Red pine             | 67,514    | 5,415   | --       | 24,472  | --      | 191     | 6,281     | --        | --     |
| White pine           | 14,305    | --      | --       | 1,634   | 1,082   | 2,663   | 2,496     | --        | 168    |
| White spruce         | 310       | --      | --       | --      | --      | --      | --        | --        | --     |
| Black spruce         | 914       | --      | --       | --      | --      | --      | --        | --        | --     |
| Balsam fir           | 194       | --      | --       | --      | --      | --      | --        | --        | --     |
| Hemlock              | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Tamarack             | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Eastern redcedar     | 1,479     | --      | --       | --      | 259     | --      | --        | --        | --     |
| Northern white-cedar | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Other softwoods      | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Total                | 91,776    | 5,415   | --       | 28,684  | 1,341   | 2,854   | 12,373    | --        | 168    |
| Hardwoods            |           |         |          |         |         |         |           |           |        |
| White oak            | 278,311   | 22,624  | 24,513   | 25,775  | 41,746  | 23,203  | 15,884    | 11,487    | 3,382  |
| Select red oak       | 403,571   | 54,034  | 40,838   | 36,716  | 36,821  | 14,001  | 37,183    | 1,896     | 10,063 |
| Other red oak        | 175,245   | 31,029  | 14,009   | 10,999  | 21,539  | 9,940   | 13,929    | 4,126     | 279    |
| Select hickory       | 74,011    | 10,044  | 11,023   | --      | 4,794   | 6,322   | 10,160    | 355       | --     |
| Other hickory        | 40,083    | 235     | 5,627    | 902     | 2,335   | 2,589   | 992       | 182       | --     |
| Basswood             | 124,839   | 5,186   | 10,993   | 9,075   | 12,071  | 6,308   | 5,500     | 3,071     | 4,227  |
| Beech                | --        | --      | --       | --      | --      | --      | --        | --        | --     |
| Yellow birch         | 1,263     | --      | --       | 842     | --      | --      | --        | --        | --     |
| Hard maple           | 116,869   | 664     | 11,069   | 11,473  | 10,995  | 3,556   | --        | --        | 2,524  |
| Soft maple           | 91,605    | 4,938   | 14,914   | 15,442  | 9,385   | 2,573   | 4,597     | --        | 5,640  |
| Elm                  | 88,963    | 7,385   | 9,674    | 5,147   | 12,540  | 6,839   | 4,913     | 2,203     | 2,134  |
| Black ash            | 14,133    | --      | 1,835    | 3,016   | 1,129   | 2,171   | 775       | --        | 1,421  |
| White & green ash    | 44,283    | 2,928   | 6,309    | 5,274   | 2,843   | 2,200   | --        | 1,075     | 1,800  |
| Cottonwood           | 18,288    | 2,377   | 279      | 320     | 759     | 1,204   | 3,237     | --        | 1,357  |
| Willow               | 6,822     | --      | 1,485    | 499     | --      | 430     | 618       | --        | 1,558  |
| Hackberry            | 1,635     | 78      | --       | --      | 130     | --      | 110       | --        | --     |
| Balsam poplar        | 1,466     | 419     | --       | --      | --      | --      | --        | --        | --     |
| Bigtooth aspen       | 87,754    | 17,395  | 7,610    | 14,380  | 2,592   | 3,036   | 6,159     | --        | 3,813  |
| Quaking aspen        | 79,237    | 17,908  | 1,629    | 9,036   | 6,163   | 4,948   | 4,989     | 1,131     | 1,800  |
| Paper birch          | 91,251    | 24,350  | 5,405    | 8,389   | 3,534   | 3,208   | 8,463     | --        | 2,774  |
| River birch          | 5,940     | 514     | 600      | --      | 2,352   | 1,084   | 968       | --        | 422    |
| Black cherry         | 47,829    | 9,598   | 1,244    | 1,540   | 1,326   | 3,781   | 3,558     | 2,730     | 368    |
| Black walnut         | 16,233    | --      | 3,533    | 262     | 5,813   | 3,207   | --        | 635       | --     |
| Butternut            | 21,628    | 1,110   | 1,628    | 1,357   | 2,094   | 948     | 1,863     | --        | 513    |
| Other hardwoods      | 12,636    | 3,839   | 470      | --      | 458     | 1,727   | 761       | --        | 454    |
| Total                | 1,843,895 | 216,655 | 174,687  | 160,444 | 181,419 | 103,275 | 124,659   | 28,891    | 44,529 |
| All species          | 1,935,671 | 222,070 | 174,687  | 189,128 | 182,760 | 106,129 | 137,032   | 28,891    | 44,697 |

(Table 26 continued on next page)



(Table 26 continued)

| Species group        | County |          |           |         |             |         |
|----------------------|--------|----------|-----------|---------|-------------|---------|
|                      | Pierce | Richland | St. Croix | Sauk    | Trempealeau | Vernon  |
| Softwoods            |        |          |           |         |             |         |
| Jack pine            | --     | --       | --        | 886     | --          | --      |
| Red pine             | 3,331  | --       | 7,475     | 7,442   | 12,907      | --      |
| White pine           | --     | --       | --        | 2,690   | 2,247       | 1,325   |
| White spruce         | --     | --       | 310       | --      | --          | --      |
| Black spruce         | --     | --       | --        | 914     | --          | --      |
| Balsam fir           | --     | --       | --        | 194     | --          | --      |
| Hemlock              | --     | --       | --        | --      | --          | --      |
| Tamarack             | --     | --       | --        | --      | --          | --      |
| Eastern redcedar     | --     | --       | --        | 160     | 1,060       | --      |
| Northern white-cedar | --     | --       | --        | --      | --          | --      |
| Other softwoods      | --     | --       | --        | --      | --          | --      |
| Total                | 3,331  | --       | 7,785     | 12,286  | 16,214      | 1,325   |
| Hardwoods            |        |          |           |         |             |         |
| White oak            | 5,356  | 18,557   | 3,920     | 26,652  | 16,599      | 38,613  |
| Select red oak       | 11,476 | 18,431   | 5,889     | 51,839  | 26,656      | 57,728  |
| Other red oak        | 3,217  | 6,403    | 3,305     | 14,126  | 28,272      | 14,072  |
| Select hickory       | --     | 8,027    | --        | 7,582   | 3,739       | 11,965  |
| Other hickory        | 2,475  | 12,855   | 151       | 5,253   | 1,348       | 5,139   |
| Basswood             | 9,698  | 14,916   | 2,734     | 12,260  | 2,907       | 25,893  |
| Beech                | --     | --       | --        | --      | --          | --      |
| Yellow birch         | --     | --       | --        | 421     | --          | --      |
| Hard maple           | 22,926 | 27,209   | --        | 4,770   | --          | 21,683  |
| Soft maple           | --     | 7,317    | --        | 19,834  | 4,556       | 2,409   |
| Elm                  | 5,002  | 12,118   | 1,033     | 6,457   | 2,255       | 11,263  |
| Black ash            | --     | 548      | 2,555     | 162     | --          | 521     |
| White & green ash    | 3,104  | 6,648    | 2,732     | 2,974   | 193         | 6,203   |
| Cottonwood           | 2,131  | 2,088    | 188       | --      | 1,946       | 2,402   |
| Willow               | --     | 184      | --        | --      | 2,048       | --      |
| Hackberry            | --     | 1,110    | --        | 126     | --          | 81      |
| Balsam poplar        | --     | --       | --        | --      | 1,047       | --      |
| Bigtooth aspen       | 1,885  | 7,187    | 3,174     | 14,002  | 5,357       | 1,164   |
| Quaking aspen        | 3,490  | 1,499    | 13,651    | 7,980   | 2,399       | 2,614   |
| Paper birch          | 3,111  | 4,096    | 6,070     | 1,860   | 16,760      | 3,231   |
| River birch          | --     | --       | --        | --      | --          | --      |
| Black cherry         | 2,618  | 2,903    | --        | 5,890   | 6,340       | 5,933   |
| Black walnut         | --     | 423      | --        | --      | --          | 2,360   |
| Butternut            | 2,959  | 4,851    | 253       | 579     | --          | 3,473   |
| Other hardwoods      | 1,445  | 1,269    | 1,496     | --      | 542         | 175     |
| Total                | 80,893 | 158,639  | 47,151    | 182,767 | 122,964     | 216,922 |
| All species          | 84,224 | 158,639  | 54,936    | 195,053 | 139,178     | 218,247 |



Table 27.--Net volume of sawtimber on commercial forest land by species group and county,  
Southwest Unit, Wisconsin, 1983

(In thousand board feet)<sup>1/</sup>

| Species group        | All       | County  |          |         |         |         |           |           |         |
|----------------------|-----------|---------|----------|---------|---------|---------|-----------|-----------|---------|
|                      | counties  | Buffalo | Crawford | Dunn    | Grant   | Iowa    | La Crosse | Lafayette | Pepin   |
| Softwoods            |           |         |          |         |         |         |           |           |         |
| Jack pine            | 19,028    | --      | --       | 5,163   | --      | --      | 13,865    | --        | --      |
| Red pine             | 73,260    | 2,993   | --       | 19,251  | --      | --      | 30,121    | --        | --      |
| White pine           | 57,982    | --      | --       | 7,207   | 6,298   | 14,234  | 14,283    | --        | 654     |
| White spruce         | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Black spruce         | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Balsam fir           | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Hemlock              | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Tamarack             | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Eastern redcedar     | 1,837     | --      | --       | --      | 943     | --      | --        | --        | --      |
| Northern white-cedar | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Other softwoods      | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Total                | 152,107   | 2,993   | --       | 31,621  | 7,241   | 14,234  | 58,269    | --        | 654     |
| Hardwoods            |           |         |          |         |         |         |           |           |         |
| White oak            | 1,037,655 | 86,854  | 83,487   | 85,681  | 153,370 | 100,576 | 57,807    | 54,125    | 10,961  |
| Select red oak       | 1,698,953 | 206,157 | 176,224  | 149,716 | 164,905 | 57,240  | 160,386   | 8,956     | 37,803  |
| Other red oak        | 657,420   | 124,988 | 45,740   | 26,077  | 79,005  | 37,232  | 50,751    | 17,879    | 1,294   |
| Select hickory       | 161,696   | 21,850  | 11,279   | --      | 14,301  | 18,836  | 21,376    | 976       | --      |
| Other hickory        | 29,895    | 1,202   | 5,698    | --      | 4,980   | 1,071   | 3,800     | --        | --      |
| Basswood             | 387,042   | 11,516  | 28,736   | 30,418  | 39,368  | 16,282  | 13,225    | 8,483     | 15,479  |
| Beech                | --        | --      | --       | --      | --      | --      | --        | --        | --      |
| Yellow birch         | 3,262     | --      | --       | 2,503   | --      | --      | --        | --        | --      |
| Hard maple           | 425,061   | 1,574   | 31,952   | 30,957  | 44,562  | 9,831   | --        | --        | 10,300  |
| Soft maple           | 265,802   | 23,294  | 43,192   | 44,149  | 40,561  | 5,771   | 8,519     | --        | 19,966  |
| Elm                  | 228,878   | 17,552  | 24,251   | 13,837  | 39,889  | 17,697  | 11,122    | 6,170     | 6,873   |
| Black ash            | 30,886    | --      | 1,137    | 5,688   | 4,908   | --      | 1,710     | --        | 4,227   |
| White & green ash    | 131,000   | 9,678   | 21,499   | 21,057  | 11,165  | 3,617   | --        | 4,516     | 4,986   |
| Cottonwood           | 73,983    | 8,538   | 1,268    | 1,437   | 3,225   | 5,366   | 13,767    | --        | 3,892   |
| Willow               | 19,288    | --      | 4,545    | 2,063   | --      | 1,022   | --        | --        | 6,783   |
| Hackberry            | 4,632     | --      | --       | --      | --      | --      | --        | --        | --      |
| Balsam poplar        | 6,428     | 1,945   | --       | --      | --      | --      | --        | --        | --      |
| Bigtooth aspen       | 250,507   | 54,638  | 13,125   | 47,951  | 7,521   | 7,101   | 17,109    | --        | 15,083  |
| Quaking aspen        | 136,605   | 49,376  | 3,590    | 6,797   | 1,070   | --      | 5,823     | 1,149     | 3,188   |
| Paper birch          | 115,121   | 28,368  | 14,409   | 12,395  | 4,526   | 6,060   | 6,595     | --        | 1,912   |
| River birch          | 13,929    | 970     | 2,726    | --      | 1,606   | 2,202   | 4,430     | --        | 1,995   |
| Black cherry         | 66,409    | 15,182  | --       | 1,948   | 1,634   | 6,957   | 6,816     | 3,408     | --      |
| Black walnut         | 59,651    | --      | 10,643   | --      | 25,426  | 10,696  | --        | --        | --      |
| Butternut            | 60,829    | 1,611   | 7,198    | 5,939   | --      | 2,852   | 7,402     | --        | 1,612   |
| Other hardwoods      | 22,074    | 2,455   | 881      | --      | 2,622   | 2,460   | 3,128     | --        | 1,325   |
| Total                | 5,887,006 | 667,748 | 531,580  | 488,613 | 644,644 | 312,869 | 393,766   | 105,662   | 147,679 |
| All species          | 6,039,113 | 670,741 | 531,580  | 520,234 | 651,885 | 327,103 | 452,035   | 105,662   | 148,333 |

<sup>1/</sup>International 1/4-inch rule.

(Table 27 continued on next page)

(Table 27 continued)

| Species group        | County  |          |           |         |             |         |
|----------------------|---------|----------|-----------|---------|-------------|---------|
|                      | Pierce  | Richland | St. Croix | Sauk    | Trempealeau | Vernon  |
| Softwoods            |         |          |           |         |             |         |
| Jack pine            | --      | --       | --        | --      | --          | --      |
| Red pine             | 13,479  | --       | 3,243     | 4,173   | --          | --      |
| White pine           | --      | --       | --        | 10,553  | --          | 4,753   |
| White spruce         | --      | --       | --        | --      | --          | --      |
| Black spruce         | --      | --       | --        | --      | --          | --      |
| Balsam fir           | --      | --       | --        | --      | --          | --      |
| Hemlock              | --      | --       | --        | --      | --          | --      |
| Tamarack             | --      | --       | --        | --      | --          | --      |
| Eastern redcedar     | --      | --       | --        | 894     | --          | --      |
| Northern white-cedar | --      | --       | --        | --      | --          | --      |
| Other softwoods      | --      | --       | --        | --      | --          | --      |
| Total                | 13,479  | --       | 3,243     | 15,620  | --          | 4,753   |
| Hardwoods            |         |          |           |         |             |         |
| White oak            | 16,525  | 63,188   | 6,233     | 105,801 | 60,998      | 152,049 |
| Select red oak       | 47,333  | 75,642   | 18,646    | 210,438 | 114,963     | 270,544 |
| Other red oak        | 14,799  | 27,004   | 10,606    | 58,479  | 104,459     | 59,107  |
| Select hickory       | --      | 24,747   | --        | 12,496  | 1,018       | 34,817  |
| Other hickory        | 5,371   | 2,406    | --        | 1,975   | --          | 3,392   |
| Basswood             | 34,615  | 54,653   | 9,999     | 34,883  | 4,647       | 84,738  |
| Beech                | --      | --       | --        | --      | --          | --      |
| Yellow birch         | --      | --       | --        | 759     | --          | --      |
| Hard maple           | 88,301  | 111,002  | --        | 12,693  | --          | 83,889  |
| Soft maple           | --      | 22,511   | --        | 33,827  | 17,556      | 6,456   |
| Elm                  | 13,704  | 32,325   | 3,283     | 9,005   | 4,966       | 28,204  |
| Black ash            | --      | --       | 10,437    | 953     | --          | 1,826   |
| White & green ash    | 6,508   | 26,474   | 1,074     | 5,476   | 1,057       | 13,893  |
| Cottonwood           | 8,205   | 9,505    | 819       | --      | 8,021       | 9,940   |
| Willow               | --      | 819      | --        | --      | 4,056       | --      |
| Hackberry            | --      | 4,632    | --        | --      | --          | --      |
| Balsam poplar        | --      | --       | --        | --      | 4,483       | --      |
| Bigtooth aspen       | 6,636   | 21,226   | 11,528    | 31,448  | 15,619      | 1,522   |
| Quaking aspen        | 3,423   | 4,730    | 30,845    | 18,473  | 8,141       | --      |
| Paper birch          | 4,917   | 1,610    | 5,773     | 1,183   | 27,373      | --      |
| River birch          | --      | --       | --        | --      | --          | --      |
| Black cherry         | 1,324   | 2,906    | --        | 6,732   | 13,130      | 6,372   |
| Black walnut         | --      | --       | --        | --      | --          | 12,886  |
| Butternut            | 8,119   | 8,302    | --        | 3,507   | --          | 14,287  |
| Other hardwoods      | 5,757   | 2,560    | 886       | --      | --          | --      |
| Total                | 265,537 | 496,242  | 110,129   | 548,128 | 390,487     | 783,922 |
| All species          | 279,016 | 496,242  | 113,372   | 563,748 | 390,487     | 788,675 |

Table 28.--Net volume of growing stock on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983  
(In thousand cubic feet)

| Species group        | All classes | Diameter class (inches at breast height) |         |          |           |           |           |           |           |           |         |        |       | 23.0-28.9 | 29.0-38.9 | 39.0+ |
|----------------------|-------------|--|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|--------|-------|-----------|-----------|-------|
|                      |             | 5.0-6.9                                  | 7.0-8.9 | 9.0-10.9 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 |         |        |       |           |           |       |
| Softwoods            |             |  |         |          |           |           |           |           |           |           |         |        |       |           |           |       |
| Jack pine            | 7,060       | 776                                      | 2,589   | 2,064    | 685       | 946       | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Red pine             | 67,514      | 27,583                                   | 27,107  | 7,553    | 2,907     | 853       | 294       | 296       | 606       | 315       | --      | --     | --    | --        | --        | --    |
| White pine           | 14,305      | 1,513                                    | 1,753   | 963      | 2,865     | 546       | 917       | 704       | 830       | 881       | 3,333   | --     | --    | --        | --        | --    |
| White spruce         | 310         | 135                                      | 175     | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Black spruce         | 914         | 722                                      | 192     | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Balsam fir           | 194         | --                                       | 194     | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Hemlock              | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Tamarack             | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Eastern redcedar     | 1,479       | 1,159                                    | --      | 160      | --        | 160       | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Northern white-cedar | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Other softwoods      | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Total                | 91,776      | 31,888                                   | 32,010  | 10,740   | 6,457     | 2,505     | 1,211     | 1,000     | 1,436     | 1,196     | 3,333   | --     | --    | --        | --        | --    |
| Hardwoods            |             |  |         |          |           |           |           |           |           |           |         |        |       |           |           |       |
| White oak            | 278,311     | 15,465                                   | 24,709  | 35,419   | 49,617    | 40,148    | 38,308    | 24,603    | 18,273    | 12,244    | 14,871  | 3,872  | 782   | --        | --        | --    |
| Select red oak       | 403,571     | 13,515                                   | 16,128  | 29,498   | 44,088    | 60,669    | 60,167    | 56,556    | 40,948    | 27,863    | 44,387  | 9,210  | 542   | --        | --        | --    |
| Other red oak        | 175,245     | 5,128                                    | 17,572  | 14,641   | 27,490    | 27,008    | 29,280    | 19,141    | 11,454    | 6,336     | 14,114  | 3,081  | --    | --        | --        | --    |
| Select hickory       | 74,011      | 12,600                                   | 16,774  | 13,988   | 13,906    | 8,738     | 4,716     | 1,696     | 1,184     | 212       | 197     | --     | --    | --        | --        | --    |
| Other hickory        | 40,083      | 21,929                                   | 8,032   | 4,417    | 3,177     | 1,269     | 301       | 705       | 253       | --        | --      | --     | --    | --        | --        | --    |
| Basswood             | 124,839     | 6,371                                    | 17,701  | 21,447   | 19,680    | 16,516    | 12,885    | 10,457    | 6,464     | 4,529     | 4,922   | 3,004  | 863   | --        | --        | --    |
| Beech                | --          | --                                       | --      | --       | --        | --        | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Yellow birch         | 1,263       | --                                       | 113     | 442      | --        | 427       | 281       | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Hard maple           | 116,869     | 11,266                                   | 10,933  | 11,185   | 13,647    | 14,784    | 14,472    | 11,531    | 8,272     | 5,150     | 10,785  | 4,552  | 292   | --        | --        | --    |
| Soft maple           | 91,605      | 14,207                                   | 12,472  | 11,189   | 11,118    | 9,397     | 6,440     | 7,242     | 4,888     | 3,623     | 5,521   | 4,384  | 1,124 | --        | --        | --    |
| Elm                  | 88,963      | 5,492                                    | 12,083  | 19,569   | 16,782    | 11,129    | 8,464     | 5,029     | 1,157     | 1,146     | 4,761   | 3,050  | 301   | --        | --        | --    |
| Black ash            | 14,133      | 3,225                                    | 2,761   | 2,330    | 2,577     | 566       | 1,420     | 614       | 441       | --        | 199     | --     | --    | --        | --        | --    |
| White & green ash    | 44,283      | 5,412                                    | 6,256   | 7,565    | 6,751     | 6,018     | 6,094     | 3,166     | 373       | 924       | 1,724   | --     | --    | --        | --        | --    |
| Cottonwood           | 18,288      | 400                                      | 476     | 554      | 2,309     | 1,515     | 738       | 2,612     | 2,562     | 1,084     | 1,268   | 3,844  | 926   | --        | --        | --    |
| Willow               | 6,822       | 133                                      | 625     | 1,520    | 1,634     | 688       | 407       | 1,173     | --        | 314       | 328     | --     | --    | --        | --        | --    |
| Hackberry            | 1,635       | 269                                      | 256     | --       | 581       | 529       | --        | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Balsam poplar        | 1,466       | --                                       | --      | --       | --        | 1,047     | 419       | --        | --        | --        | --      | --     | --    | --        | --        | --    |
| Bigtooth aspen       | 87,754      | 6,474                                    | 11,583  | 14,984   | 24,301    | 13,556    | 10,317    | 4,750     | 1,101     | 688       | --      | --     | --    | --        | --        | --    |
| Quaking aspen        | 79,237      | 18,683                                   | 16,239  | 16,114   | 16,543    | 6,837     | 2,966     | 1,104     | 751       | --        | --      | --     | --    | --        | --        | --    |
| Paper birch          | 91,251      | 19,503                                   | 28,409  | 20,839   | 11,841    | 6,504     | 2,903     | 1,022     | 230       | --        | --      | --     | --    | --        | --        | --    |
| River birch          | 5,940       | 1,191                                    | 930     | 800      | 810       | 675       | 892       | --        | 299       | 343       | --      | --     | --    | --        | --        | --    |
| Black cherry         | 47,829      | 9,564                                    | 9,038   | 17,417   | 5,556     | 3,724     | 1,074     | 1,456     | --        | --        | --      | --     | --    | --        | --        | --    |
| Black walnut         | 16,233      | 663                                      | 1,963   | 3,276    | 3,804     | 3,510     | 620       | 972       | 527       | 657       | 241     | --     | --    | --        | --        | --    |
| Butternut            | 21,628      | 1,979                                    | 4,784   | 3,914    | 3,816     | 3,114     | 3,089     | 318       | --        | --        | 365     | 249    | --    | --        | --        | --    |
| Other hardwoods      | 12,636      | 3,055                                    | 4,348   | 1,262    | 1,423     | 1,641     | --        | 250       | 657       | --        | --      | --     | --    | --        | --        | --    |
| Total                | 1,843,895   | 176,524                                  | 224,185 | 252,370  | 281,451   | 240,009   | 206,253   | 154,397   | 99,834    | 65,113    | 103,683 | 35,246 | 4,830 | --        | --        | --    |
| All species          | 1,935,671   | 208,412                                  | 256,195 | 263,110  | 287,908   | 242,514   | 207,464   | 155,397   | 101,270   | 66,309    | 107,016 | 35,246 | 4,830 | --        | --        | --    |



Table 29.---Net volume of sawtimber on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983  
(In thousand board feet)<sup>1/</sup>

| Species group        | All classes | Diameter class (inches at breast height) |               |               |               |               |               |               |               |               |        |
|----------------------|-------------|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------|
|                      |             | 9.0-<br>10.9                             | 11.0-<br>12.9 | 13.0-<br>14.9 | 15.0-<br>16.9 | 17.0-<br>18.9 | 19.0-<br>20.9 | 21.0-<br>22.9 | 23.0-<br>28.9 | 29.0-<br>38.9 | 39.0+  |
| Softwoods            |             |  |               |               |               |               |               |               |               |               |        |
| Jack pine            | 19,028      | 10,628                                   | 3,518         | 4,882         | --            | --            | --            | --            | --            | --            | --     |
| Red pine             | 73,260      | 43,294                                   | 16,487        | 4,827         | 1,665         | 1,699         | 3,470         | 1,818         | --            | --            | --     |
| White pine           | 57,982      | 3,820                                    | 13,042        | 2,738         | 4,932         | 3,865         | 4,670         | 5,092         | 19,823        | --            | --     |
| White spruce         | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Black spruce         | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Balsam fir           | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Hemlock              | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Tamarack             | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Eastern redcedar     | 1,837       | 894                                      | 943           | --            | --            | --            | --            | --            | --            | --            | --     |
| Northern white-cedar | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Other softwoods      | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Total                | 152,107     | 58,636                                   | 33,047        | 13,390        | 6,597         | 5,564         | 8,140         | 6,910         | 19,823        | --            | --     |
| Hardwoods            |             |  |               |               |               |               |               |               |               |               |        |
| White oak            | 1,037,655   | --                                       | 273,469       | 208,102       | 192,027       | 120,869       | 88,754        | 59,496        | 72,190        | 18,912        | 3,836  |
| Select red oak       | 1,698,953   | --                                       | 215,324       | 293,749       | 293,285       | 278,037       | 202,860       | 139,495       | 225,410       | 47,915        | 2,878  |
| Other red oak        | 657,420     | --                                       | 129,095       | 127,400       | 138,233       | 91,276        | 55,301        | 30,794        | 69,741        | 15,580        | --     |
| Select hickory       | 161,696     | --                                       | 77,237        | 45,054        | 23,265        | 8,378         | 5,770         | 1,018         | 974           | --            | --     |
| Other hickory        | 29,895      | --                                       | 17,338        | 6,469         | 1,450         | 3,431         | 1,207         | --            | --            | --            | --     |
| Basswood             | 387,042     | --                                       | 94,294        | 78,923        | 62,203        | 51,240        | 32,209        | 22,713        | 25,119        | 15,695        | 4,646  |
| Beech                | --          | --                                       | --            | --            | --            | --            | --            | --            | --            | --            | --     |
| Yellow birch         | 3,262       | --                                       | --            | 1,911         | 1,351         | --            | --            | --            | --            | --            | --     |
| Hard maple           | 425,061     | --                                       | 65,559        | 72,577        | 72,620        | 59,016        | 43,159        | 27,192        | 58,064        | 25,202        | 1,672  |
| Soft maple           | 265,802     | --                                       | 61,952        | 48,133        | 31,447        | 34,340        | 22,678        | 16,597        | 25,307        | 20,138        | 5,210  |
| Elm                  | 228,878     | --                                       | 71,280        | 48,089        | 37,323        | 22,561        | 5,310         | 5,291         | 22,557        | 14,968        | 1,499  |
| Black ash            | 30,886      | --                                       | 13,434        | 3,262         | 7,728         | 3,162         | 2,286         | --            | 1,014         | --            | --     |
| White & green ash    | 131,000     | --                                       | 39,339        | 31,719        | 30,503        | 15,306        | 1,721         | 4,397         | 8,015         | --            | --     |
| Cottonwood           | 73,983      | --                                       | 9,527         | 6,463         | 3,057         | 10,986        | 10,981        | 4,810         | 5,728         | 17,939        | 4,492  |
| Willow               | 19,288      | --                                       | 6,923         | 2,835         | 1,651         | 5,013         | --            | 1,379         | 1,487         | --            | --     |
| Hackberry            | 4,632       | --                                       | 2,340         | 2,292         | --            | --            | --            | --            | --            | --            | --     |
| Balsam poplar        | 6,428       | --                                       | --            | 4,483         | 1,945         | --            | --            | --            | --            | --            | --     |
| Bigtooth aspen       | 250,507     | --                                       | 105,922       | 63,383        | 49,051        | 23,267        | 5,471         | 3,413         | --            | --            | --     |
| Quaking aspen        | 136,605     | --                                       | 76,851        | 34,023        | 15,546        | 6,010         | 4,175         | --            | --            | --            | --     |
| Paper birch          | 115,121     | --                                       | 59,150        | 33,691        | 15,447        | 5,546         | 1,287         | --            | --            | --            | --     |
| River birch          | 13,929      | --                                       | 3,738         | 3,136         | 4,088         | --            | 1,361         | 1,606         | --            | --            | --     |
| Black cherry         | 66,409      | --                                       | 32,589        | 20,803        | 5,646         | 7,371         | --            | --            | --            | --            | --     |
| Black walnut         | 59,651      | --                                       | 23,900        | 19,937        | 3,409         | 5,206         | 2,705         | 3,289         | 1,205         | --            | --     |
| Butternut            | 60,829      | --                                       | 22,730        | 17,187        | 16,175        | --            | --            | --            | 1,856         | 1,227         | --     |
| Other hardwoods      | 22,074      | --                                       | 7,898         | 8,999         | --            | 1,405         | 3,772         | --            | --            | --            | --     |
| Total                | 5,887,006   | --                                       | 1,409,889     | 1,182,620     | 1,007,450     | 754,074       | 491,007       | 321,490       | 518,667       | 177,576       | 24,233 |
| All species          | 6,039,113   | 58,636                                   | 1,442,936     | 1,196,010     | 1,014,047     | 759,638       | 499,147       | 328,400       | 538,490       | 177,576       | 24,233 |

<sup>1/</sup> International 1/4-inch rule.

Table 30.--Net volume of growing stock on commercial forest land by species group and forest type, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Species group        | Forest type |           |          |            |            |              |              |                      |
|----------------------|-------------|-----------|----------|------------|------------|--------------|--------------|----------------------|
|                      | All types   | Jack pine | Red pine | White pine | Balsam fir | White spruce | Black spruce | Northern white-cedar |
| Softwoods            |             |           |          |            |            |              |              |                      |
| Jack pine            | 7,060       | 5,571     | 1,250    | --         | --         | --           | --           | --                   |
| Red pine             | 67,514      | 1,137     | 56,641   | --         | --         | --           | --           | --                   |
| White pine           | 14,305      | 976       | 1,478    | 4,743      | --         | --           | --           | --                   |
| White spruce         | 310         | --        | 310      | --         | --         | --           | --           | --                   |
| Black spruce         | 914         | --        | 914      | --         | --         | --           | --           | --                   |
| Balsam fir           | 194         | --        | 194      | --         | --         | --           | --           | --                   |
| Hemlock              | --          | --        | --       | --         | --         | --           | --           | --                   |
| Tamarack             | --          | --        | --       | --         | --         | --           | --           | --                   |
| Eastern redcedar     | 1,479       | --        | --       | --         | --         | --           | --           | --                   |
| Northern white-cedar | --          | --        | --       | --         | --         | --           | --           | --                   |
| Other softwoods      | --          | --        | --       | --         | --         | --           | --           | --                   |
| Total                | 91,776      | 7,684     | 60,787   | 4,743      | --         | --           | --           | --                   |
| Hardwoods            |             |           |          |            |            |              |              |                      |
| White oak            | 278,311     | --        | --       | --         | --         | --           | --           | --                   |
| Select red oak       | 403,571     | --        | 1,072    | --         | --         | --           | --           | --                   |
| Other red oak        | 175,245     | 314       | 507      | --         | --         | --           | --           | --                   |
| Select hickory       | 74,011      | --        | --       | --         | --         | --           | --           | --                   |
| Other hickory        | 40,083      | --        | --       | --         | --         | --           | --           | --                   |
| Basswood             | 124,839     | --        | --       | --         | --         | --           | --           | --                   |
| Beech                | --          | --        | --       | --         | --         | --           | --           | --                   |
| Yellow birch         | 1,263       | --        | --       | --         | --         | --           | --           | --                   |
| Hard maple           | 116,869     | --        | --       | --         | --         | --           | --           | --                   |
| Soft maple           | 91,605      | --        | --       | --         | --         | --           | --           | --                   |
| Elm                  | 88,963      | 307       | --       | --         | --         | --           | --           | --                   |
| Black ash            | 14,133      | --        | --       | --         | --         | --           | --           | --                   |
| White & green ash    | 44,283      | --        | --       | --         | --         | --           | --           | --                   |
| Cottonwood           | 18,288      | --        | --       | 394        | --         | --           | --           | --                   |
| Willow               | 6,822       | --        | --       | --         | --         | --           | --           | --                   |
| Hackberry            | 1,635       | --        | --       | --         | --         | --           | --           | --                   |
| Balsam poplar        | 1,466       | --        | --       | --         | --         | --           | --           | --                   |
| Bigtooth aspen       | 87,754      | --        | --       | --         | --         | --           | --           | --                   |
| Quaking aspen        | 79,237      | 343       | 952      | --         | --         | --           | --           | --                   |
| Paper birch          | 91,251      | --        | --       | --         | --         | --           | --           | --                   |
| River birch          | 5,940       | --        | --       | --         | --         | --           | --           | --                   |
| Black cherry         | 47,829      | --        | 224      | --         | --         | --           | --           | --                   |
| Black walnut         | 16,233      | --        | --       | --         | --         | --           | --           | --                   |
| Butternut            | 21,628      | --        | --       | --         | --         | --           | --           | --                   |
| Other hardwoods      | 12,636      | --        | 581      | --         | --         | --           | --           | --                   |
| Total                | 1,843,895   | 964       | 3,336    | 394        | --         | --           | --           | --                   |
| All species          | 1,935,671   | 8,648     | 64,123   | 5,137      | --         | --           | --           | --                   |

(Table 30 continued on next page)

(Table 30 continued)

| Species group        | Forest type |             |                    |             |        |             |             |
|----------------------|-------------|-------------|--------------------|-------------|--------|-------------|-------------|
|                      | Tamarack    | Oak-hickory | Elm-ash-soft maple | Maple-birch | Aspen  | Paper birch | Non-stocked |
| <b>Softwoods</b>     |             |             |                    |             |        |             |             |
| Jack pine            | --          | 239         | --                 | --          | --     | --          | --          |
| Red pine             | --          | 8,998       | --                 | 738         | --     | --          | --          |
| White pine           | --          | 2,298       | --                 | 4,739       | 71     | --          | --          |
| White spruce         | --          | --          | --                 | --          | --     | --          | --          |
| Black spruce         | --          | --          | --                 | --          | --     | --          | --          |
| Balsam fir           | --          | --          | --                 | --          | --     | --          | --          |
| Hemlock              | --          | --          | --                 | --          | --     | --          | --          |
| Tamarack             | --          | --          | --                 | --          | --     | --          | --          |
| Eastern redcedar     | --          | 1,060       | --                 | 419         | --     | --          | --          |
| Northern white-cedar | --          | --          | --                 | --          | --     | --          | --          |
| Other softwoods      | --          | --          | --                 | --          | --     | --          | --          |
| Total                | --          | 12,595      | --                 | 5,896       | 71     | --          | --          |
| <b>Hardwoods</b>     |             |             |                    |             |        |             |             |
| White oak            | --          | 236,350     | 3,909              | 32,974      | 2,308  | 1,714       | 1,056       |
| Select red oak       | --          | 335,782     | --                 | 51,793      | 4,829  | 9,598       | 497         |
| Other red oak        | --          | 162,643     | 1,234              | 7,388       | 1,509  | 499         | 1,151       |
| Select hickory       | --          | 62,128      | --                 | 9,244       | --     | 2,639       | --          |
| Other hickory        | --          | 23,962      | 442                | 14,624      | 1,055  | --          | --          |
| Basswood             | --          | 47,258      | 947                | 75,173      | 589    | 541         | 331         |
| Beech                | --          | --          | --                 | --          | --     | --          | --          |
| Yellow birch         | --          | --          | --                 | 1,001       | 262    | --          | --          |
| Hard maple           | --          | 21,219      | --                 | 95,375      | --     | 275         | --          |
| Soft maple           | --          | 16,753      | 52,413             | 21,561      | 180    | 698         | --          |
| Elm                  | --          | 35,087      | 8,687              | 42,230      | 1,752  | 900         | --          |
| Black ash            | --          | 2,475       | 9,161              | 2,497       | --     | --          | --          |
| White & green ash    | --          | 9,743       | 8,612              | 23,312      | 2,436  | --          | 180         |
| Cottonwood           | --          | 5,003       | 7,449              | 3,422       | 2,020  | --          | --          |
| Willow               | --          | --          | 5,767              | 184         | 618    | --          | 253         |
| Hackberry            | --          | 78          | 581                | 976         | --     | --          | --          |
| Balsam poplar        | --          | 1,047       | --                 | --          | --     | 419         | --          |
| Bigtooth aspen       | --          | 51,964      | 154                | 12,970      | 17,827 | 4,839       | --          |
| Quaking aspen        | --          | 27,515      | --                 | 11,685      | 34,804 | 3,631       | 307         |
| Paper birch          | --          | 42,164      | 1,527              | 6,878       | 5,854  | 34,828      | --          |
| River birch          | --          | 591         | 5,349              | --          | --     | --          | --          |
| Black cherry         | --          | 28,590      | 215                | 17,749      | 199    | 852         | --          |
| Black walnut         | --          | 12,334      | --                 | 3,443       | --     | --          | 456         |
| Butternut            | --          | 13,260      | --                 | 8,115       | --     | --          | 253         |
| Other hardwoods      | --          | 2,620       | 4,977              | 3,979       | 330    | 149         | --          |
| Total                | --          | 1,138,566   | 111,424            | 446,573     | 76,572 | 61,582      | 4,484       |
| All species          | --          | 1,151,161   | 111,424            | 452,469     | 76,643 | 61,582      | 4,484       |



Table 31.--Net volume of sawtimber on commercial forest land by species group and forest type,  
Southwest Unit, Wisconsin, 1983

(In thousand board feet)<sup>1/</sup>

| Species group        | Forest type |           |          |            |            |              |              |                      |
|----------------------|-------------|-----------|----------|------------|------------|--------------|--------------|----------------------|
|                      | All types   | Jack pine | Red pine | White pine | Balsam fir | White spruce | Black spruce | Northern white-cedar |
| Softwoods            |             |           |          |            |            |              |              |                      |
| Jack pine            | 19,028      | 18,139    | 889      | --         | --         | --           | --           | --                   |
| Red pine             | 73,260      | 4,173     | 47,913   | --         | --         | --           | --           | --                   |
| White pine           | 57,982      | 5,231     | 5,600    | 14,283     | --         | --           | --           | --                   |
| White spruce         | --          | --        | --       | --         | --         | --           | --           | --                   |
| Black spruce         | --          | --        | --       | --         | --         | --           | --           | --                   |
| Balsam fir           | --          | --        | --       | --         | --         | --           | --           | --                   |
| Hemlock              | --          | --        | --       | --         | --         | --           | --           | --                   |
| Tamarack             | --          | --        | --       | --         | --         | --           | --           | --                   |
| Eastern redcedar     | 1,837       | --        | --       | --         | --         | --           | --           | --                   |
| Northern white-cedar | --          | --        | --       | --         | --         | --           | --           | --                   |
| Other softwoods      | --          | --        | --       | --         | --         | --           | --           | --                   |
| Total                | 152,107     | 27,543    | 54,402   | 14,283     | --         | --           | --           | --                   |
| Hardwoods            |             |           |          |            |            |              |              |                      |
| White oak            | 1,037,655   | --        | --       | --         | --         | --           | --           | --                   |
| Select red oak       | 1,698,953   | --        | --       | --         | --         | --           | --           | --                   |
| Other red oak        | 657,420     | 1,514     | 2,346    | --         | --         | --           | --           | --                   |
| Select hickory       | 161,696     | --        | --       | --         | --         | --           | --           | --                   |
| Other hickory        | 29,895      | --        | --       | --         | --         | --           | --           | --                   |
| Basswood             | 387,042     | --        | --       | --         | --         | --           | --           | --                   |
| Beech                | --          | --        | --       | --         | --         | --           | --           | --                   |
| Yellow birch         | 3,262       | --        | --       | --         | --         | --           | --           | --                   |
| Hard maple           | 425,061     | --        | --       | --         | --         | --           | --           | --                   |
| Soft maple           | 265,802     | --        | --       | --         | --         | --           | --           | --                   |
| Elm                  | 228,878     | 1,357     | --       | --         | --         | --           | --           | --                   |
| Black ash            | 30,886      | --        | --       | --         | --         | --           | --           | --                   |
| White & green ash    | 131,000     | --        | --       | --         | --         | --           | --           | --                   |
| Cottonwood           | 73,983      | --        | --       | 1,722      | --         | --           | --           | --                   |
| Willow               | 19,288      | --        | --       | --         | --         | --           | --           | --                   |
| Hackberry            | 4,632       | --        | --       | --         | --         | --           | --           | --                   |
| Balsam poplar        | 6,428       | --        | --       | --         | --         | --           | --           | --                   |
| Bigtooth aspen       | 250,507     | --        | --       | --         | --         | --           | --           | --                   |
| Quaking aspen        | 136,605     | --        | --       | --         | --         | --           | --           | --                   |
| Paper birch          | 115,121     | --        | --       | --         | --         | --           | --           | --                   |
| River birch          | 13,929      | --        | --       | --         | --         | --           | --           | --                   |
| Black cherry         | 66,409      | --        | 1,147    | --         | --         | --           | --           | --                   |
| Black walnut         | 59,651      | --        | --       | --         | --         | --           | --           | --                   |
| Butternut            | 60,829      | --        | --       | --         | --         | --           | --           | --                   |
| Other hardwoods      | 22,074      | --        | 3,128    | --         | --         | --           | --           | --                   |
| Total                | 5,887,006   | 2,871     | 6,621    | 1,722      | --         | --           | --           | --                   |
| All species          | 6,039,113   | 30,414    | 61,023   | 16,005     | --         | --           | --           | --                   |

(Table 31 continued on next page)

<sup>1/</sup>International 1/4-inch rule.

(Table 31 continued)

| Species group        | Forest type |             |                    |             |         |             |             |
|----------------------|-------------|-------------|--------------------|-------------|---------|-------------|-------------|
|                      | Tamarack    | Oak-hickory | Elm-ash-soft maple | Maple-birch | Aspen   | Paper birch | Non-stocked |
| <b>Softwoods</b>     |             |             |                    |             |         |             |             |
| Jack pine            | --          | --          | --                 | --          | --      | --          | --          |
| Red pine             | --          | 17,931      | --                 | 3,243       | --      | --          | --          |
| White pine           | --          | 8,692       | --                 | 24,176      | --      | --          | --          |
| White spruce         | --          | --          | --                 | --          | --      | --          | --          |
| Black spruce         | --          | --          | --                 | --          | --      | --          | --          |
| Balsam fir           | --          | --          | --                 | --          | --      | --          | --          |
| Hemlock              | --          | --          | --                 | --          | --      | --          | --          |
| Tamarack             | --          | --          | --                 | --          | --      | --          | --          |
| Eastern redcedar     | --          | --          | --                 | 1,837       | --      | --          | --          |
| Northern white-cedar | --          | --          | --                 | --          | --      | --          | --          |
| Other softwoods      | --          | --          | --                 | --          | --      | --          | --          |
| Total                | --          | 26,623      | --                 | 29,256      | --      | --          | --          |
| <b>Hardwoods</b>     |             |             |                    |             |         |             |             |
| White oak            | --          | 875,456     | 8,805              | 139,163     | 7,113   | 4,215       | 2,903       |
| Select red oak       | --          | 1,439,902   | --                 | 202,564     | 18,920  | 35,034      | 2,533       |
| Other red oak        | --          | 608,151     | 4,075              | 29,679      | 6,484   | 2,486       | 2,685       |
| Select hickory       | --          | 131,051     | --                 | 23,270      | --      | 7,375       | --          |
| Other hickory        | --          | 16,848      | --                 | 12,012      | 1,035   | --          | --          |
| Basswood             | --          | 128,541     | 4,780              | 251,136     | 963     | --          | 1,622       |
| Beech                | --          | --          | --                 | --          | --      | --          | --          |
| Yellow birch         | --          | --          | --                 | 2,110       | 1,152   | --          | --          |
| Hard maple           | --          | 72,142      | --                 | 352,919     | --      | --          | --          |
| Soft maple           | --          | 33,979      | 178,070            | 50,520      | --      | 3,233       | --          |
| Elm                  | --          | 93,825      | 33,211             | 95,389      | 4,333   | 763         | --          |
| Black ash            | --          | 8,306       | 18,761             | 3,819       | --      | --          | --          |
| White & green ash    | --          | 21,432      | 31,431             | 74,737      | 2,326   | --          | 1,074       |
| Cottonwood           | --          | 21,378      | 32,008             | 13,689      | 5,186   | --          | --          |
| Willow               | --          | --          | 17,447             | 819         | --      | --          | 1,022       |
| Hackberry            | --          | --          | 2,340              | 2,292       | --      | --          | --          |
| Balsam poplar        | --          | 4,483       | --                 | --          | --      | 1,945       | --          |
| Bigtooth aspen       | --          | 150,916     | 813                | 24,251      | 58,210  | 16,317      | --          |
| Quaking aspen        | --          | 52,183      | --                 | 20,592      | 49,189  | 14,641      | --          |
| Paper birch          | --          | 43,884      | 4,526              | 3,707       | 5,047   | 57,957      | --          |
| River birch          | --          | 2,723       | 11,206             | --          | --      | --          | --          |
| Black cherry         | --          | 33,140      | --                 | 30,945      | --      | 1,177       | --          |
| Black walnut         | --          | 50,257      | --                 | 8,117       | --      | --          | 1,277       |
| Butternut            | --          | 34,897      | --                 | 25,932      | --      | --          | --          |
| Other hardwoods      | --          | 5,551       | 6,313              | 6,174       | 908     | --          | --          |
| Total                | --          | 3,829,045   | 353,786            | 1,373,836   | 160,866 | 145,143     | 13,116      |
| All species          | --          | 3,855,668   | 353,786            | 1,403,092   | 160,866 | 145,143     | 13,116      |

Table 32.--Net volume of growing stock on commercial forest land by species group and ownership class, Southwest Unit, Wisconsin, 1983  
(In thousand cubic feet)

| Species group        | All owners | Ownership class |               |        |                    |        |                 |           |                   |                    |
|----------------------|------------|-----------------|---------------|--------|--------------------|--------|-----------------|-----------|-------------------|--------------------|
|                      |            | National Forest | Misc. federal | State  | County & municipal | Indian | Forest industry | Farmer    | Misc. priv.-corp. | Misc. priv.-indiv. |
| Softwoods            |            |                 |               |        |                    |        |                 |           |                   |                    |
| Jack pine            | 7,060      | --              | --            | --     | 886                | --     | --              | 5,683     | 491               | --                 |
| Red pine             | 67,514     | --              | --            | --     | 1,137              | --     | --              | 37,197    | 3,655             | 25,525             |
| White pine           | 14,305     | --              | --            | --     | --                 | --     | --              | 10,260    | --                | 4,045              |
| White spruce         | 310        | --              | --            | --     | --                 | --     | --              | 310       | --                | --                 |
| Black spruce         | 914        | --              | --            | --     | --                 | --     | --              | --        | --                | 914                |
| Balsam fir           | 194        | --              | --            | --     | --                 | --     | --              | --        | --                | 194                |
| Hemlock              | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Tamarack             | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Eastern redcedar     | 1,479      | --              | --            | --     | --                 | --     | --              | 1,319     | --                | 160                |
| Northern white-cedar | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Other softwoods      | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Total                | 91,776     | --              | --            | --     | 2,023              | --     | --              | 54,769    | 4,146             | 30,838             |
| Hardwoods            |            |                 |               |        |                    |        |                 |           |                   |                    |
| White oak            | 278,311    | --              | 1,650         | 7,780  | 619                | --     | --              | 187,542   | 6,820             | 73,900             |
| Select red oak       | 403,571    | --              | --            | --     | --                 | --     | --              | 291,720   | 15,233            | 96,618             |
| Other red oak        | 175,245    | --              | --            | 711    | 136                | --     | --              | 124,323   | 5,787             | 44,288             |
| Select hickory       | 74,011     | --              | --            | 287    | --                 | --     | --              | 51,021    | 4,232             | 18,471             |
| Other hickory        | 40,083     | --              | --            | --     | --                 | --     | --              | 28,345    | 3,822             | 7,916              |
| Basswood             | 124,839    | --              | --            | 437    | --                 | --     | --              | 84,140    | 4,393             | 35,869             |
| Beech                | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Yellow birch         | 1,263      | --              | --            | --     | --                 | --     | --              | 683       | --                | 580                |
| Hard maple           | 116,869    | --              | 668           | --     | --                 | --     | --              | 88,750    | 980               | 26,471             |
| Soft maple           | 91,605     | --              | 19,771        | 7,360  | --                 | --     | --              | 54,444    | 1,056             | 8,974              |
| Elm                  | 88,963     | --              | 957           | 2,429  | 172                | --     | --              | 57,645    | 4,244             | 23,516             |
| Black ash            | 14,133     | --              | 295           | 1,335  | --                 | --     | --              | 5,267     | 2,319             | 4,917              |
| White & green ash    | 44,283     | --              | 2,433         | 1,963  | 597                | --     | --              | 28,202    | 2,134             | 8,954              |
| Cottonwood           | 18,288     | --              | 2,402         | 864    | --                 | --     | --              | 11,877    | 367               | 2,778              |
| Willow               | 6,822      | --              | 645           | --     | --                 | --     | --              | 5,337     | --                | 840                |
| Hackberry            | 1,635      | --              | --            | --     | --                 | --     | --              | 1,399     | 110               | 126                |
| Balsam poplar        | 1,466      | --              | --            | --     | --                 | --     | --              | 419       | --                | 1,047              |
| Bigtooth aspen       | 87,754     | --              | --            | --     | --                 | --     | --              | 65,054    | 3,680             | 17,358             |
| Quaking aspen        | 79,237     | --              | --            | 1,662  | --                 | --     | --              | 59,848    | 6,549             | 12,840             |
| Paper birch          | 91,251     | --              | --            | 798    | --                 | --     | --              | 63,810    | 5,232             | 21,411             |
| River birch          | 5,940      | --              | 642           | 1,172  | --                 | --     | --              | 1,314     | 2,435             | 377                |
| Black cherry         | 47,829     | --              | --            | 307    | --                 | --     | --              | 37,789    | 1,070             | 8,663              |
| Black walnut         | 16,233     | --              | --            | --     | 510                | --     | --              | 10,927    | 163               | 4,633              |
| Butternut            | 21,628     | --              | --            | 335    | --                 | --     | --              | 15,109    | 2,337             | 3,847              |
| Other hardwoods      | 12,636     | --              | --            | --     | 137                | --     | --              | 10,856    | --                | 1,643              |
| Total                | 1,843,895  | --              | 29,463        | 27,440 | 2,171              | --     | --              | 1,285,821 | 72,963            | 426,037            |
| All species          | 1,935,671  | --              | 29,463        | 27,440 | 4,194              | --     | --              | 1,340,590 | 77,109            | 456,875            |



Table 33.--Net volume of sawtimber on commercial forest land by species group and ownership class, Southwest Unit, Wisconsin, 1983  
(In thousand board feet)<sup>1/</sup>

| Species group        | All owners | Ownership class |               |        |                    |        |                 |           |                   |                    |
|----------------------|------------|-----------------|---------------|--------|--------------------|--------|-----------------|-----------|-------------------|--------------------|
|                      |            | National Forest | Misc. federal | State  | County & municipal | Indian | Forest industry | Farmer    | Misc. priv.-corp. | Misc. priv.-indiv. |
| Softwoods            |            |                 |               |        |                    |        |                 |           |                   |                    |
| Jack pine            | 19,028     | --              | --            | --     | --                 | --     | --              | 18,139    | 889               | --                 |
| Red pine             | 73,260     | --              | --            | --     | 4,173              | --     | --              | 53,986    | 6,184             | 8,917              |
| White pine           | 57,982     | --              | --            | --     | --                 | --     | --              | 38,099    | --                | 19,883             |
| White spruce         | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Black spruce         | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Balsam fir           | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Hemlock              | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Tamarack             | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Eastern redcedar     | 1,837      | --              | --            | --     | --                 | --     | --              | 943       | --                | 894                |
| Northern white-cedar | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Other softwoods      | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Total                | 152,107    | --              | --            | --     | 4,173              | --     | --              | 111,167   | 7,073             | 29,694             |
| Hardwoods            |            |                 |               |        |                    |        |                 |           |                   |                    |
| White oak            | 1,037,655  | --              | 6,314         | 28,247 | 2,630              | --     | --              | 700,564   | 28,274            | 271,626            |
| Select red oak       | 1,698,953  | --              | --            | --     | --                 | --     | --              | 1,234,119 | 71,412            | 393,422            |
| Other red oak        | 657,420    | --              | --            | 3,538  | --                 | --     | --              | 487,143   | 16,137            | 150,602            |
| Select hickory       | 161,696    | --              | --            | --     | --                 | --     | --              | 104,608   | 17,995            | 39,093             |
| Other hickory        | 29,895     | --              | --            | --     | --                 | --     | --              | 20,876    | 1,769             | 7,250              |
| Basswood             | 387,042    | --              | --            | 2,067  | --                 | --     | --              | 274,141   | 16,593            | 94,241             |
| Beech                | --         | --              | --            | --     | --                 | --     | --              | --        | --                | --                 |
| Yellow birch         | 3,262      | --              | --            | --     | --                 | --     | --              | 1,911     | --                | 1,351              |
| Hard maple           | 425,061    | --              | 3,571         | --     | --                 | --     | --              | 327,779   | --                | 93,711             |
| Soft maple           | 265,802    | --              | 62,423        | 28,320 | --                 | --     | --              | 149,744   | 5,129             | 20,186             |
| Elm                  | 228,878    | --              | 2,770         | 9,972  | 774                | --     | --              | 153,079   | 7,988             | 54,295             |
| Black ash            | 30,886     | --              | --            | 6,081  | --                 | --     | --              | 4,262     | 6,389             | 14,154             |
| White & green ash    | 131,000    | --              | 11,627        | 2,392  | 2,887              | --     | --              | 73,055    | 5,462             | 35,577             |
| Cottonwood           | 73,983     | --              | 9,940         | 3,779  | --                 | --     | --              | 47,565    | 1,653             | 11,046             |
| Willow               | 19,288     | --              | 2,599         | --     | --                 | --     | --              | 14,743    | --                | 1,946              |
| Hackberry            | 4,632      | --              | --            | --     | --                 | --     | --              | 4,632     | --                | --                 |
| Balsam poplar        | 6,428      | --              | --            | --     | --                 | --     | --              | 1,945     | --                | 4,483              |
| Bigtooth aspen       | 250,507    | --              | --            | 4,572  | --                 | --     | --              | 182,584   | 7,172             | 56,179             |
| Quaking aspen        | 136,605    | --              | --            | --     | --                 | --     | --              | 109,661   | 10,781            | 16,163             |
| Paper birch          | 115,121    | --              | --            | 1,285  | --                 | --     | --              | 74,500    | 10,070            | 29,266             |
| River birch          | 13,929     | --              | 2,967         | 2,202  | --                 | --     | --              | 6,083     | 970               | 1,707              |
| Black cherry         | 66,409     | --              | --            | 1,647  | --                 | --     | --              | 53,555    | --                | 11,207             |
| Black walnut         | 59,651     | --              | --            | --     | 3,408              | --     | --              | 40,206    | 1,036             | 15,001             |
| Butternut            | 60,829     | --              | --            | 1,803  | --                 | --     | --              | 46,230    | 6,753             | 6,043              |
| Other hardwoods      | 22,074     | --              | --            | --     | 799                | --     | --              | 20,394    | --                | 881                |
| Total                | 5,887,006  | --              | 102,211       | 95,905 | 10,498             | --     | --              | 4,133,379 | 215,583           | 1,329,430          |
| All species          | 6,039,113  | --              | 102,211       | 95,905 | 14,671             | --     | --              | 4,244,546 | 222,656           | 1,359,124          |

<sup>1/</sup> International 1/4-inch rule.

Table 34.--Net volume of growing stock on commercial forest land by forest type and stand-age class, Southwest Unit, Wisconsin, 1983  
(In thousand cubic feet)

| Forest type          | All ages  | Stand-age class (years) |        |         |         |         |         |         |         |         |         |         |         |        |
|----------------------|-----------|-------------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
|                      |           | 1-10                    | 11-20  | 21-30   | 31-40   | 41-50   | 51-60   | 61-70   | 71-80   | 81-90   | 91-100  | 101-120 | 121-140 | 141+   |
| Jack pine            | 8,648     | --                      | --     | --      | 2,715   | 5,933   | --      | --      | --      | --      | --      | --      | --      | --     |
| Red pine             | 64,123    | --                      | 10,623 | 39,549  | 13,951  | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| White pine           | 5,137     | --                      | 2,247  | --      | --      | --      | --      | 2,890   | --      | --      | --      | --      | --      | --     |
| Balsam fir           | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| White spruce         | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| Black spruce         | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| Northern white-cedar | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| Tamarack             | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| Oak-hickory          | 1,151,161 | 35,128                  | 15,397 | 25,633  | 33,630  | 137,170 | 123,999 | 98,866  | 113,650 | 165,816 | 121,097 | 137,112 | 112,225 | 31,438 |
| Elm-ash-soft maple   | 111,424   | 8,156                   | 3,207  | 4,305   | 7,697   | 8,101   | 14,419  | 9,987   | 17,956  | 16,377  | 8,410   | 12,809  | --      | --     |
| Maple-birch          | 452,469   | 12,774                  | 26,692 | 27,565  | 51,288  | 36,590  | 64,953  | 22,239  | 16,130  | 51,489  | 58,411  | 58,850  | 13,293  | 12,195 |
| Aspen                | 76,643    | 2,052                   | 8,214  | 10,020  | 9,193   | 15,142  | 17,939  | 11,002  | --      | --      | 3,081   | --      | --      | --     |
| Paper birch          | 61,582    | 2,330                   | 1,346  | 2,183   | 12,675  | 15,247  | 22,848  | 4,953   | --      | --      | --      | --      | --      | --     |
| Exotic               | --        | --                      | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| Nonstocked           | 4,484     | 4,484                   | --     | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --     |
| All types            | 1,935,671 | 64,924                  | 67,726 | 109,255 | 131,149 | 218,183 | 244,158 | 147,047 | 150,626 | 233,682 | 190,999 | 208,771 | 125,518 | 43,633 |

Table 35.--Net volume of sawtimber on commercial forest land by forest type and stand-age class, Southwest Unit, Wisconsin, 1983  
(In thousand board feet)<sup>1/</sup>

| Forest type          | All ages  | Stand-age class (years) |         |         |         |         |         |         |         |         |         |         |         |         | 141+ |
|----------------------|-----------|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
|                      |           | 1-10                    | 11-20   | 21-30   | 31-40   | 41-50   | 51-60   | 61-70   | 71-80   | 81-90   | 91-100  | 101-120 | 121-140 |         |      |
| Jack pine            | 30,414    | --                      | --      | --      | 10,862  | 19,552  | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Red pine             | 61,023    | --                      | --      | 20,316  | 40,707  | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| White pine           | 16,005    | --                      | --      | --      | --      | --      | --      | 16,005  | --      | --      | --      | --      | --      | --      |      |
| Balsam fir           | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| White spruce         | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Black spruce         | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Northern white-cedar | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Tamarack             | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Oak-hickory          | 3,855,668 | 98,468                  | 48,868  | 51,578  | 36,791  | 300,723 | 343,366 | 307,025 | 384,233 | 625,155 | 495,778 | 559,116 | 486,322 | 118,245 |      |
| Elm-ash-soft maple   | 353,786   | 22,356                  | 10,508  | 2,960   | 11,272  | 29,252  | 37,309  | 32,920  | 72,805  | 62,201  | 31,103  | 41,100  | --      | --      |      |
| Maple-birch          | 1,403,092 | 41,157                  | 87,318  | 77,943  | 93,615  | 67,963  | 148,100 | 74,236  | 52,149  | 192,037 | 236,534 | 216,117 | 61,455  | 54,468  |      |
| Aspen                | 160,866   | 4,037                   | 9,464   | 25,248  | 20,735  | 13,712  | 57,908  | 18,285  | --      | --      | 11,477  | --      | --      | --      |      |
| Paper birch          | 145,143   | 5,697                   | 3,641   | 2,613   | 18,010  | 38,923  | 64,506  | 11,753  | --      | --      | --      | --      | --      | --      |      |
| Exotic               | --        | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| Nonstocked           | 13,116    | --                      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      | --      |      |
| All types            | 6,039,113 | 184,831                 | 159,799 | 180,658 | 231,992 | 470,125 | 651,189 | 444,219 | 525,192 | 879,393 | 774,892 | 816,333 | 547,777 | 172,713 |      |

<sup>1/</sup> International 1/4-inch rule.

Table 36.--Net volume of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Southwest Unit, Wisconsin, 1983

(In thousand cubic feet)

| Forest type and stand-size class | All classes | Basal-area class (square feet per acre) |       |       |       |       |       |       |
|----------------------------------|-------------|---|-------|-------|-------|-------|-------|-------|
|                                  |             | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 |
| Jack pine                        |             |   |       |       |       |       |       |       |
| Sawtimber                        | 6,625       | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | 2,023       | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | 8,648       | --                                      | --    | --    | --    | --    | --    | --    |
| Red pine                         |             |   |       |       |       |       |       |       |
| Sawtimber                        | 7,934       | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | 55,062      | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | 1,127       | --                                      | 174   | --    | --    | --    | 953   | --    |
| All stands                       | 64,123      | --                                      | 174   | --    | --    | --    | 953   | --    |
| White pine                       |             |   |       |       |       |       |       |       |
| Sawtimber                        | 2,890       | --                                      | --    | --    | 2,890 | --    | --    | --    |
| Poletimber                       | 2,247       | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | 5,137       | --                                      | --    | --    | 2,890 | --    | --    | --    |
| Balsam fir                       |             |   |       |       |       |       |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| White spruce                     |             |   |       |       |       |       |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Black spruce                     |             |   |       |       |       |       |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Northern white-cedar             |             |   |       |       |       |       |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    |

(Table 36 continued on next page)



(Table 36 continued)

| Forest type and<br>stand-size class | Basal-area class (square feet per acre) |       |        |         |         |         |        |
|-------------------------------------|---|-------|--------|---------|---------|---------|--------|
|                                     | 71-80                                   | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 | 181+   |
| Jack pine                           |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | 2,715 | --     | --      | 3,910   | --      | --     |
| Poletimber                          | --                                      | --    | --     | --      | 2,023   | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | 2,715 | --     | --      | 5,933   | --      | --     |
| Red pine                            |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | 7,934   | --     |
| Poletimber                          | 3,411                                   | 7,433 | --     | --      | 12,128  | 6,018   | 26,072 |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | 3,411                                   | 7,433 | --     | --      | 12,128  | 13,952  | 26,072 |
| White pine                          |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --    | --     | 2,247   | --      | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --    | --     | 2,247   | --      | --      | --     |
| Balsam fir                          |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --    | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --    | --     | --      | --      | --      | --     |
| White spruce                        |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --    | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --    | --     | --      | --      | --      | --     |
| Black spruce                        |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --    | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --    | --     | --      | --      | --      | --     |
| Northern white-cedar                |   |       |        |         |         |         |        |
| Sawtimber                           | --                                      | --    | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --    | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --    | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --    | --     | --      | --      | --      | --     |

(Table 36 continued on next page)

(Table 36 continued)

| Forest type and<br>stand-size class | All<br>classes | Basal-area class (square feet per acre) |       |        |        |        |         |        |
|-------------------------------------|----------------|---|-------|--------|--------|--------|---------|--------|
|                                     |                | 0-10                                    | 11-20 | 21-30  | 31-40  | 41-50  | 51-60   | 61-70  |
| Tamarack                            |                |   |       |        |        |        |         |        |
| Sawtimber                           | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Poletimber                          | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Sapling & seedling                  | --             | --                                      | --    | --     | --     | --     | --      | --     |
| All stands                          | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Oak-hickory                         |                |   |       |        |        |        |         |        |
| Sawtimber                           | 892,212        | --                                      | --    | 3,863  | 5,555  | 14,214 | 30,117  | 42,185 |
| Poletimber                          | 204,070        | --                                      | --    | --     | 1,503  | 1,102  | 8,480   | 12,203 |
| Sapling & seedling                  | 54,879         | 144                                     | 1,617 | 4,975  | 6,128  | 2,981  | 10,431  | 6,946  |
| All stands                          | 1,151,161      | 144                                     | 1,617 | 8,838  | 13,186 | 18,297 | 49,028  | 61,334 |
| Elm-ash-soft maple                  |                |   |       |        |        |        |         |        |
| Sawtimber                           | 81,426         | --                                      | --    | --     | 1,413  | 2,574  | 7,112   | --     |
| Poletimber                          | 17,320         | --                                      | --    | --     | --     | --     | 6,633   | --     |
| Sapling & seedling                  | 12,678         | --                                      | 1,700 | 2,959  | 1,513  | 2,751  | 1,540   | --     |
| All stands                          | 111,424        | --                                      | 1,700 | 2,959  | 2,926  | 5,325  | 15,285  | --     |
| Maple-birch                         |                |   |       |        |        |        |         |        |
| Sawtimber                           | 271,748        | --                                      | --    | 1,167  | 1,171  | 6,871  | 17,702  | 13,618 |
| Poletimber                          | 132,909        | --                                      | --    | --     | 633    | 6,425  | 12,390  | 5,869  |
| Sapling & seedling                  | 47,812         | 243                                     | 2,658 | 6,124  | 7,026  | 15,733 | 8,838   | 4,248  |
| All stands                          | 452,469        | 243                                     | 2,658 | 7,291  | 8,830  | 29,029 | 38,930  | 23,735 |
| Aspen                               |                |   |       |        |        |        |         |        |
| Sawtimber                           | 37,978         | --                                      | --    | --     | --     | --     | 2,578   | --     |
| Poletimber                          | 29,581         | --                                      | 850   | --     | --     | 1,466  | 3,250   | 2,667  |
| Sapling & seedling                  | 9,084          | 271                                     | --    | --     | 2,462  | 5,836  | 515     | --     |
| All stands                          | 76,643         | 271                                     | 850   | --     | 2,462  | 7,302  | 6,343   | 2,667  |
| Paper birch                         |                |   |       |        |        |        |         |        |
| Sawtimber                           | 25,131         | --                                      | --    | --     | --     | --     | 2,929   | 4,935  |
| Poletimber                          | 32,775         | --                                      | --    | --     | --     | 4,219  | --      | --     |
| Sapling & seedling                  | 3,676          | --                                      | --    | --     | 1,079  | --     | --      | 2,597  |
| All stands                          | 61,582         | --                                      | --    | --     | 1,079  | 4,219  | 2,929   | 7,532  |
| Exotic                              |                |   |       |        |        |        |         |        |
| Sawtimber                           | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Poletimber                          | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Sapling & seedling                  | --             | --                                      | --    | --     | --     | --     | --      | --     |
| All stands                          | --             | --                                      | --    | --     | --     | --     | --      | --     |
| Nonstocked                          | 4,484          | --                                      | --    | 180    | --     | --     | 1,560   | 692    |
| All types                           |                |   |       |        |        |        |         |        |
| Sawtimber                           | 1,325,944      | --                                      | --    | 5,030  | 11,029 | 23,659 | 60,438  | 60,738 |
| Poletimber                          | 475,987        | --                                      | 850   | --     | 2,136  | 13,212 | 30,753  | 20,739 |
| Sapling & seedling                  | 129,256        | 658                                     | 6,149 | 14,058 | 18,208 | 27,301 | 22,277  | 13,791 |
| Nonstocked                          | 4,484          | --                                      | --    | 180    | --     | --     | 1,560   | 692    |
| All stands                          | 1,935,671      | 658                                     | 6,999 | 19,268 | 31,373 | 64,172 | 115,028 | 95,960 |

(Table 36 continued on next page)

(Table 36 continued)

| Forest type and<br>stand-size class | Basal-area class (square feet per acre) |         |         |         |         |         |        |
|-------------------------------------|---|---------|---------|---------|---------|---------|--------|
|                                     | 71-80                                   | 81-90   | 91-100  | 101-120 | 121-150 | 151-180 | 181+   |
| Tamarack                            |   |         |         |         |         |         |        |
| Sawtimber                           | --                                      | --      | --      | --      | --      | --      | --     |
| Poletimber                          | --                                      | --      | --      | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --      | --      | --      | --     |
| All stands                          | --                                      | --      | --      | --      | --      | --      | --     |
| Oak-hickory                         |   |         |         |         |         |         |        |
| Sawtimber                           | 82,574                                  | 113,834 | 89,300  | 241,494 | 188,348 | 72,946  | 7,782  |
| Poletimber                          | 18,148                                  | 26,540  | 27,443  | 57,042  | 31,547  | 10,562  | 9,500  |
| Sapling & seedling                  | 2,490                                   | 3,837   | 3,403   | 7,824   | 4,103   | --      | --     |
| All stands                          | 103,212                                 | 144,211 | 120,146 | 306,360 | 223,998 | 83,508  | 17,282 |
| Elm-ash-soft maple                  |   |         |         |         |         |         |        |
| Sawtimber                           | 2,402                                   | 14,903  | 7,243   | 23,887  | 15,974  | 5,918   | --     |
| Poletimber                          | 2,990                                   | --      | --      | 7,697   | --      | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --      | 2,215   | --      | --     |
| All stands                          | 5,392                                   | 14,903  | 7,243   | 31,584  | 18,189  | 5,918   | --     |
| Maple-birch                         |   |         |         |         |         |         |        |
| Sawtimber                           | 32,004                                  | 23,205  | 24,016  | 105,652 | 42,460  | 3,882   | --     |
| Poletimber                          | 14,310                                  | 19,486  | 2,746   | 38,826  | 24,937  | 7,287   | --     |
| Sapling & seedling                  | 2,942                                   | --      | --      | --      | --      | --      | --     |
| All stands                          | 49,256                                  | 42,691  | 26,762  | 144,478 | 67,397  | 11,169  | --     |
| Aspen                               |   |         |         |         |         |         |        |
| Sawtimber                           | 4,036                                   | 6,378   | --      | 5,584   | 19,402  | --      | --     |
| Poletimber                          | 2,829                                   | --      | 8,859   | 4,281   | 5,379   | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --      | --      | --      | --     |
| All stands                          | 6,865                                   | 6,378   | 8,859   | 9,865   | 24,781  | --      | --     |
| Paper birch                         |   |         |         |         |         |         |        |
| Sawtimber                           | 2,789                                   | 5,663   | --      | --      | --      | --      | 8,815  |
| Poletimber                          | 7,244                                   | 2,268   | 2,664   | 3,083   | 13,297  | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --      | --      | --      | --     |
| All stands                          | 10,033                                  | 7,931   | 2,664   | 3,083   | 13,297  | --      | 8,815  |
| Exotic                              |   |         |         |         |         |         |        |
| Sawtimber                           | --                                      | --      | --      | --      | --      | --      | --     |
| Poletimber                          | --                                      | --      | --      | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --      | --      | --      | --     |
| All stands                          | --                                      | --      | --      | --      | --      | --      | --     |
| Nonstocked                          | 1,463                                   | --      | --      | 589     | --      | --      | --     |
| All types                           |   |         |         |         |         |         |        |
| Sawtimber                           | 123,805                                 | 166,698 | 120,559 | 376,617 | 270,094 | 90,680  | 16,597 |
| Poletimber                          | 48,932                                  | 55,727  | 41,712  | 113,176 | 89,311  | 23,867  | 35,572 |
| Sapling & seedling                  | 5,432                                   | 3,837   | 3,403   | 7,824   | 6,318   | --      | --     |
| Nonstocked                          | 1,463                                   | --      | --      | 589     | --      | --      | --     |
| All stands                          | 179,632                                 | 226,262 | 165,674 | 498,206 | 365,723 | 114,547 | 52,169 |



Table 37.--Net volume of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Southwest Unit, Wisconsin, 1983

(In thousand board feet)<sup>1/</sup>

| Forest type and<br>stand-size class | All<br>classes | Basal-area class (square feet per acre) |       |       |        |       |       |       |
|-------------------------------------|----------------|---|-------|-------|--------|-------|-------|-------|
|                                     |                | 0-10                                    | 11-20 | 21-30 | 31-40  | 41-50 | 51-60 | 61-70 |
| Jack pine                           |                |   |       |       |        |       |       |       |
| Sawtimber                           | 26,241         | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | 4,173          | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | 30,414         | --                                      | --    | --    | --     | --    | --    | --    |
| Red pine                            |                |   |       |       |        |       |       |       |
| Sawtimber                           | 33,249         | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | 27,774         | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | 61,023         | --                                      | --    | --    | --     | --    | --    | --    |
| White pine                          |                |   |       |       |        |       |       |       |
| Sawtimber                           | 16,005         | --                                      | --    | --    | 16,005 | --    | --    | --    |
| Poletimber                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | 16,005         | --                                      | --    | --    | 16,005 | --    | --    | --    |
| Balsam fir                          |                |   |       |       |        |       |       |       |
| Sawtimber                           | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| White spruce                        |                |   |       |       |        |       |       |       |
| Sawtimber                           | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Black spruce                        |                |   |       |       |        |       |       |       |
| Sawtimber                           | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Northern white-cedar                |                |   |       |       |        |       |       |       |
| Sawtimber                           | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Poletimber                          | --             | --                                      | --    | --    | --     | --    | --    | --    |
| Sapling & seedling                  | --             | --                                      | --    | --    | --     | --    | --    | --    |
| All stands                          | --             | --                                      | --    | --    | --     | --    | --    | --    |

(Table 37 continued on next page)

<sup>1/</sup>International 1/4-inch rule.

(Table 37 continued)

| Forest type and<br>stand-size class | Basal-area class (square feet per acre) |        |        |         |         |         |        |
|-------------------------------------|---|--------|--------|---------|---------|---------|--------|
|                                     | 71-80                                   | 81-90  | 91-100 | 101-120 | 121-150 | 151-180 | 181+   |
| Jack pine                           |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | 10,862 | --     | --      | 15,379  | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | 4,173   | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | 10,862 | --     | --      | 19,552  | --      | --     |
| Red pine                            |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | 33,249  | --     |
| Poletimber                          | --                                      | 7,073  | --     | --      | 7,458   | --      | 13,243 |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | 7,073  | --     | --      | 7,458   | 33,249  | 13,243 |
| White pine                          |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --     | --     | --      | --      | --      | --     |
| Balsam fir                          |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --     | --     | --      | --      | --      | --     |
| White spruce                        |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --     | --     | --      | --      | --      | --     |
| Black spruce                        |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --     | --     | --      | --      | --      | --     |
| Northern white-cedar                |   |        |        |         |         |         |        |
| Sawtimber                           | --                                      | --     | --     | --      | --      | --      | --     |
| Poletimber                          | --                                      | --     | --     | --      | --      | --      | --     |
| Sapling & seedling                  | --                                      | --     | --     | --      | --      | --      | --     |
| All stands                          | --                                      | --     | --     | --      | --      | --      | --     |

(Table 37 continued on next page)

(Table 37 continued)

| Forest type and stand-size class | All classes | Basal-area class (square feet per acre) |        |        |         |         |         |         |
|----------------------------------|-------------|---|--------|--------|---------|---------|---------|---------|
|                                  |             | 0-10                                    | 11-20  | 21-30  | 31-40   | 41-50   | 51-60   | 61-70   |
| Tamarack                         |             |   |        |        |         |         |         |         |
| Sawtimber                        | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Poletimber                       | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Sapling & seedling               | --          | --                                      | --     | --     | --      | --      | --      | --      |
| All stands                       | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Oak-hickory                      |             |   |        |        |         |         |         |         |
| Sawtimber                        | 3,375,835   | --                                      | --     | 19,407 | 26,688  | 60,294  | 135,154 | 176,859 |
| Poletimber                       | 321,623     | --                                      | --     | --     | 3,871   | 1,841   | 16,567  | 22,666  |
| Sapling & seedling               | 158,210     | 966                                     | 5,400  | 13,182 | 18,315  | 10,751  | 34,532  | 14,062  |
| All stands                       | 3,855,668   | 966                                     | 5,400  | 32,589 | 48,874  | 72,886  | 186,253 | 213,587 |
| Elm-ash-soft maple               |             |   |        |        |         |         |         |         |
| Sawtimber                        | 299,601     | --                                      | --     | --     | 4,734   | 10,040  | 26,713  | --      |
| Poletimber                       | 18,361      | --                                      | --     | --     | --      | --      | 7,089   | --      |
| Sapling & seedling               | 35,824      | --                                      | 6,652  | 6,579  | 5,182   | 6,755   | 3,582   | --      |
| All stands                       | 353,786     | --                                      | 6,652  | 6,579  | 9,916   | 16,795  | 37,384  | --      |
| Maple-birch                      |             |   |        |        |         |         |         |         |
| Sawtimber                        | 1,004,702   | --                                      | --     | 4,679  | 5,798   | 29,554  | 62,414  | 53,461  |
| Poletimber                       | 230,176     | --                                      | --     | --     | --      | 12,068  | 17,438  | 7,966   |
| Sapling & seedling               | 168,214     | 1,124                                   | 11,155 | 22,112 | 22,750  | 54,261  | 31,643  | 14,213  |
| All stands                       | 1,403,092   | 1,124                                   | 11,155 | 26,791 | 28,548  | 95,883  | 111,495 | 75,640  |
| Aspen                            |             |   |        |        |         |         |         |         |
| Sawtimber                        | 113,451     | --                                      | --     | --     | --      | --      | 7,897   | --      |
| Poletimber                       | 36,323      | --                                      | 1,035  | --     | --      | 3,536   | 4,790   | --      |
| Sapling & seedling               | 11,092      | --                                      | --     | --     | 2,381   | 8,711   | --      | --      |
| All stands                       | 160,866     | --                                      | 1,035  | --     | 2,381   | 12,247  | 12,687  | --      |
| Paper birch                      |             |   |        |        |         |         |         |         |
| Sawtimber                        | 85,502      | --                                      | --     | --     | --      | --      | 9,855   | 18,648  |
| Poletimber                       | 50,303      | --                                      | --     | --     | --      | 7,579   | --      | --      |
| Sapling & seedling               | 9,338       | --                                      | --     | --     | 1,018   | --      | --      | 8,320   |
| All stands                       | 145,143     | --                                      | --     | --     | 1,018   | 7,579   | 9,855   | 26,968  |
| Exotic                           |             |   |        |        |         |         |         |         |
| Sawtimber                        | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Poletimber                       | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Sapling & seedling               | --          | --                                      | --     | --     | --      | --      | --      | --      |
| All stands                       | --          | --                                      | --     | --     | --      | --      | --      | --      |
| Nonstocked                       | 13,116      | --                                      | --     | 1,074  | --      | --      | 5,274   | 3,329   |
| All types                        |             |   |        |        |         |         |         |         |
| Sawtimber                        | 4,954,586   | --                                      | --     | 24,086 | 53,225  | 99,888  | 242,033 | 248,968 |
| Poletimber                       | 688,733     | --                                      | 1,035  | --     | 3,871   | 25,024  | 45,884  | 30,632  |
| Sapling & seedling               | 382,678     | 2,090                                   | 23,207 | 41,873 | 49,646  | 80,478  | 69,757  | 36,595  |
| Nonstocked                       | 13,116      | --                                      | --     | 1,074  | --      | --      | 5,274   | 3,329   |
| All stands                       | 6,039,113   | 2,090                                   | 24,242 | 67,033 | 106,742 | 205,390 | 362,948 | 319,524 |

(Table 37 continued)

| Forest type and<br>stand-size class | Basal-area class (square feet per acre) |         |         |           |           |         |        |
|-------------------------------------|---|---------|---------|-----------|-----------|---------|--------|
|                                     | 71-80                                   | 81-90   | 91-100  | 101-120   | 121-150   | 151-180 | 181+   |
| <b>Tamarack</b>                     |   |         |         |           |           |         |        |
| Sawtimber                           | --                                      | --      | --      | --        | --        | --      | --     |
| Poletimber                          | --                                      | --      | --      | --        | --        | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --        | --        | --      | --     |
| All stands                          | --                                      | --      | --      | --        | --        | --      | --     |
| <b>Oak-hickory</b>                  |   |         |         |           |           |         |        |
| Sawtimber                           | 310,591                                 | 452,847 | 338,732 | 870,720   | 671,464   | 281,919 | 31,160 |
| Poletimber                          | 23,281                                  | 26,789  | 58,381  | 91,449    | 56,314    | 3,562   | 16,902 |
| Sapling & seedling                  | 4,437                                   | 6,836   | 6,555   | 31,964    | 11,210    | --      | --     |
| All stands                          | 338,309                                 | 486,472 | 403,668 | 994,133   | 738,988   | 285,481 | 48,062 |
| <b>Elm-ash-soft maple</b>           |   |         |         |           |           |         |        |
| Sawtimber                           | 9,940                                   | 54,045  | 29,964  | 86,746    | 61,859    | 15,560  | --     |
| Poletimber                          | --                                      | --      | --      | 11,272    | --        | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --        | 7,074     | --      | --     |
| All stands                          | 9,940                                   | 54,045  | 29,964  | 98,018    | 68,933    | 15,560  | --     |
| <b>Maple-birch</b>                  |   |         |         |           |           |         |        |
| Sawtimber                           | 114,427                                 | 90,507  | 98,191  | 393,196   | 140,778   | 11,697  | --     |
| Poletimber                          | 30,628                                  | 33,921  | 5,356   | 64,403    | 42,391    | 16,005  | --     |
| Sapling & seedling                  | 10,956                                  | --      | --      | --        | --        | --      | --     |
| All stands                          | 156,011                                 | 124,428 | 103,547 | 457,599   | 183,169   | 27,702  | --     |
| <b>Aspen</b>                        |   |         |         |           |           |         |        |
| Sawtimber                           | 14,878                                  | 21,973  | --      | 3,578     | 65,125    | --      | --     |
| Poletimber                          | 7,037                                   | --      | 4,315   | 9,749     | 5,861     | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --        | --        | --      | --     |
| All stands                          | 21,915                                  | 21,973  | 4,315   | 13,327    | 70,986    | --      | --     |
| <b>Paper birch</b>                  |   |         |         |           |           |         |        |
| Sawtimber                           | 8,497                                   | 19,936  | --      | --        | --        | --      | 28,566 |
| Poletimber                          | 9,832                                   | 4,324   | 5,759   | 5,415     | 17,394    | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --        | --        | --      | --     |
| All stands                          | 18,329                                  | 24,260  | 5,759   | 5,415     | 17,394    | --      | 28,566 |
| <b>Exotic</b>                       |   |         |         |           |           |         |        |
| Sawtimber                           | --                                      | --      | --      | --        | --        | --      | --     |
| Poletimber                          | --                                      | --      | --      | --        | --        | --      | --     |
| Sapling & seedling                  | --                                      | --      | --      | --        | --        | --      | --     |
| All stands                          | --                                      | --      | --      | --        | --        | --      | --     |
| <b>Nonstocked</b>                   | 3,439                                   | --      | --      | --        | --        | --      | --     |
| <b>All types</b>                    |   |         |         |           |           |         |        |
| Sawtimber                           | 458,333                                 | 650,170 | 466,887 | 1,354,240 | 954,605   | 342,425 | 59,726 |
| Poletimber                          | 70,778                                  | 72,107  | 73,811  | 182,288   | 133,591   | 19,567  | 30,145 |
| Sapling & seedling                  | 15,393                                  | 6,836   | 6,555   | 31,964    | 18,284    | --      | --     |
| Nonstocked                          | 3,439                                   | --      | --      | --        | --        | --      | --     |
| All stands                          | 547,943                                 | 729,113 | 547,253 | 1,568,492 | 1,106,480 | 361,992 | 89,871 |



Table 38.--Net volume of sawtimber on commercial forest land by species group and butt log grade, Southwest Unit, Wisconsin, 1983

(In thousand board feet)<sup>1/</sup>

| Species group        | All       | Log grade |           |           |                |
|----------------------|-----------|-----------|-----------|-----------|----------------|
|                      | grades    | 1         | 2         | 3         | Tie and timber |
| Softwoods            |           |           |           |           |                |
| Jack pine            | 19,028    | 458       | 1,428     | 17,142    | --             |
| Red pine             | 73,260    | --        | --        | 73,260    | --             |
| White pine           | 57,982    | 22,207    | 18,254    | 17,521    | --             |
| White spruce         | --        | --        | --        | --        | --             |
| Black spruce         | --        | --        | --        | --        | --             |
| Balsam fir           | --        | --        | --        | --        | --             |
| Hemlock              | --        | --        | --        | --        | --             |
| Tamarack             | --        | --        | --        | --        | --             |
| Eastern redcedar     | 1,837     | --        | --        | 1,837     | --             |
| Northern white-cedar | --        | --        | --        | --        | --             |
| Other softwoods      | --        | --        | --        | --        | --             |
| Total                | 152,107   | 22,665    | 19,682    | 109,760   | --             |
| Hardwoods            |           |           |           |           |                |
| White oak            | 1,037,655 | 40,616    | 307,218   | 567,994   | 121,827        |
| Select red oak       | 1,698,953 | 341,148   | 537,039   | 768,729   | 52,037         |
| Other red oak        | 657,420   | --        | 110,002   | 495,536   | 51,882         |
| Select hickory       | 161,696   | --        | 43,502    | 92,797    | 25,397         |
| Other hickory        | 29,895    | --        | --        | 29,895    | --             |
| Basswood             | 387,042   | 88,897    | 63,495    | 225,122   | 9,528          |
| Beech                | --        | --        | --        | --        | --             |
| Yellow birch         | 3,262     | --        | 685       | 2,228     | 349            |
| Hard maple           | 425,061   | 56,759    | 106,456   | 246,465   | 15,381         |
| Soft maple           | 265,802   | 52,012    | 32,962    | 145,494   | 35,334         |
| Elm                  | 228,878   | 43,356    | 51,805    | 112,698   | 21,019         |
| Black ash            | 30,886    | --        | --        | 30,886    | --             |
| White & green ash    | 131,000   | --        | 44,455    | 86,545    | --             |
| Cottonwood           | 73,983    | 23,441    | 4,175     | 42,115    | 4,252          |
| Willow               | 19,288    | --        | 15,364    | 3,924     | --             |
| Hackberry            | 4,632     | 906       | 574       | 2,536     | 616            |
| Balsam poplar        | 6,428     | --        | --        | 6,428     | --             |
| Bigtooth aspen       | 250,507   | --        | 10,357    | 240,150   | --             |
| Quaking aspen        | 136,605   | --        | --        | 136,605   | --             |
| Paper birch          | 115,121   | --        | 22,837    | 83,678    | 8,606          |
| River birch          | 13,929    | --        | --        | 13,929    | --             |
| Black cherry         | 66,409    | --        | --        | 66,409    | --             |
| Black walnut         | 59,651    | --        | --        | 59,651    | --             |
| Butternut            | 60,829    | --        | 12,729    | 48,100    | --             |
| Other hardwoods      | 22,074    | --        | 8,987     | 13,087    | --             |
| Total                | 5,887,006 | 647,135   | 1,372,642 | 3,521,001 | 346,228        |
| All species          | 6,039,113 | 669,800   | 1,392,324 | 3,630,761 | 346,228        |

<sup>1/</sup>International 1/4-inch rule.

Table 39.--Net volume of short-log trees on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983  
(In thousand cubic feet)

| Species group        | All classes | Diameter class (inches at breast height) |           |           |           |           |           |           |           |       |       |    |    | 29.0-39.0+ |
|----------------------|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|-------|----|----|------------|
|                      |             | 9.0-10.9                                 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 | 23.0-28.9 | 28.9  |       |    |    |            |
| Softwoods            |             |  |           |           |           |           |           |           |           |       |       |    |    |            |
| Jack pine            | 170         | --                                       | 170       | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Red pine             | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| White pine           | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| White spruce         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Black spruce         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Balsam fir           | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Hemlock              | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Tamarack             | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Eastern redcedar     | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Northern white-cedar | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Other softwoods      | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Total                | 170         | --                                       | 170       | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Hardwoods            |             |  |           |           |           |           |           |           |           |       |       |    |    |            |
| White oak            | 32,644      | --                                       | 4,286     | 7,484     | 6,056     | 3,723     | 2,614     | 3,421     | 3,489     | 1,571 | --    | -- | -- | --         |
| Select red oak       | 24,646      | --                                       | --        | 3,309     | 5,650     | 2,250     | 2,817     | 2,762     | 5,257     | 2,601 | --    | -- | -- | --         |
| Other red oak        | 20,934      | --                                       | 436       | 2,696     | 5,030     | 4,792     | 1,637     | 1,886     | 3,990     | 467   | --    | -- | -- | --         |
| Select hickory       | 1,724       | --                                       | 438       | 310       | 752       | 224       | --        | --        | --        | --    | --    | -- | -- | --         |
| Other hickory        | 246         | --                                       | 246       | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Basswood             | 5,076       | --                                       | --        | 1,373     | 630       | 619       | 522       | 216       | 482       | 205   | 1,029 | -- | -- | --         |
| Beech                | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Yellow birch         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Hard maple           | 9,938       | --                                       | --        | 1,629     | 1,069     | 2,780     | 1,273     | 1,156     | 856       | 1,175 | --    | -- | -- | --         |
| Soft maple           | 5,649       | --                                       | 733       | 668       | 1,148     | 554       | 718       | 390       | 492       | 809   | 137   | -- | -- | --         |
| Elm                  | 8,568       | --                                       | 1,133     | 1,679     | 2,017     | 219       | 1,569     | 441       | 512       | 998   | --    | -- | -- | --         |
| Black ash            | 257         | --                                       | --        | 257       | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| White & green ash    | 2,020       | --                                       | 215       | --        | 573       | 442       | 233       | --        | 557       | --    | --    | -- | -- | --         |
| Cottonwood           | 734         | --                                       | --        | --        | --        | --        | --        | --        | 473       | --    | 261   | -- | -- | --         |
| Willow               | 788         | --                                       | 194       | --        | 338       | --        | --        | --        | 256       | --    | --    | -- | -- | --         |
| Hackberry            | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Balsam poplar        | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Bigtooth aspen       | 1,719       | --                                       | --        | 537       | 341       | 841       | --        | --        | --        | --    | --    | -- | -- | --         |
| Quaking aspen        | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --    | --    | -- | -- | --         |
| Paper birch          | 2,161       | --                                       | 991       | 917       | --        | --        | 253       | --        | --        | --    | --    | -- | -- | --         |
| River birch          | 645         | --                                       | --        | --        | 365       | --        | 280       | --        | --        | --    | --    | -- | -- | --         |
| Black cherry         | 1,647       | --                                       | --        | 559       | 873       | --        | --        | 215       | --        | --    | --    | -- | -- | --         |
| Black walnut         | 478         | --                                       | 200       | --        | --        | 278       | --        | --        | --        | --    | --    | -- | -- | --         |
| Butternut            | 1,990       | --                                       | 146       | 417       | 1,012     | 202       | --        | --        | 213       | --    | --    | -- | -- | --         |
| Other hardwoods      | 1,399       | --                                       | 215       | 538       | 254       | 254       | --        | --        | 138       | --    | --    | -- | -- | --         |
| Total                | 123,263     | --                                       | 9,233     | 22,373    | 26,108    | 17,178    | 11,916    | 10,487    | 16,715    | 7,826 | 1,427 | -- | -- | --         |
| All species          | 123,433     | --                                       | 9,403     | 22,373    | 26,108    | 17,178    | 11,916    | 10,487    | 16,715    | 7,826 | 1,427 | -- | -- | --         |

Table 40.--Net volume of short-log trees on commercial forest land by species group and diameter class, Southwest Unit, Wisconsin, 1983  
(In thousand board feet)<sup>1/</sup>

| Species group        | All classes | Diameter class (inches at breast height) |           |           |           |           |           |           |           |           |       |  |  |
|----------------------|-------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|--|--|
|                      |             | 9.0-10.9                                 | 11.0-12.9 | 13.0-14.9 | 15.0-16.9 | 17.0-18.9 | 19.0-20.9 | 21.0-22.9 | 23.0-28.9 | 29.0-38.9 | 39.0+ |  |  |
| Softwoods            | 586         | --                                       | 586       | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Jack pine            | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Red pine             | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| White pine           | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| White spruce         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Black spruce         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Balsam fir           | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Hemlock              | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Tamarack             | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Eastern redcedar     | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Northern white-cedar | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Other softwoods      | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Total                | 586         | --                                       | 586       | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Hardwoods            | 86,141      | --                                       | 12,390    | 20,198    | 15,981    | 9,513     | 6,614     | 8,625     | 8,839     | 3,981     | --    |  |  |
| White oak            | 55,877      | --                                       | --        | 7,308     | 12,501    | 5,061     | 6,369     | 6,329     | 12,182    | 6,127     | --    |  |  |
| Select red oak       | 47,614      | --                                       | 960       | 5,966     | 11,293    | 10,835    | 3,730     | 4,369     | 9,345     | 1,116     | --    |  |  |
| Other red oak        | 4,581       | --                                       | 688       | 921       | 1,909     | 578       | --        | --        | --        | --        | --    |  |  |
| Select hickory       | 688         | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Other hickory        | 11,204      | --                                       | --        | 2,908     | 1,362     | 1,334     | 1,142     | 481       | 1,086     | 469       | 2,422 |  |  |
| Basswood             | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Beech                | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Yellow birch         | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Hard maple           | 24,768      | --                                       | --        | 3,890     | 2,589     | 6,820     | 3,182     | 2,946     | 2,219     | 3,122     | --    |  |  |
| Soft maple           | 14,910      | --                                       | 2,131     | 1,836     | 3,066     | 1,839     | 1,833     | 995       | 1,225     | 2,033     | 352   |  |  |
| Elm                  | 21,817      | --                                       | 2,751     | 4,143     | 5,012     | 552       | 4,066     | 1,157     | 1,373     | 2,763     | --    |  |  |
| Black ash            | 738         | --                                       | --        | 738       | --        | --        | --        | --        | --        | --        | --    |  |  |
| White & green ash    | 4,597       | --                                       | 543       | --        | 1,328     | 1,011     | 518       | --        | 1,197     | --        | --    |  |  |
| Cottonwood           | 2,451       | --                                       | --        | --        | --        | --        | --        | --        | 1,538     | --        | 913   |  |  |
| Willow               | 2,385       | --                                       | 559       | --        | 1,002     | --        | --        | --        | 824       | --        | --    |  |  |
| Hackberry            | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Balsam poplar        | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Bigtooth aspen       | 2,890       | --                                       | --        | 874       | 574       | 1,442     | --        | --        | --        | --        | --    |  |  |
| Quaking aspen        | --          | --                                       | --        | --        | --        | --        | --        | --        | --        | --        | --    |  |  |
| Paper birch          | 5,886       | --                                       | 2,654     | 2,495     | --        | --        | 737       | --        | --        | --        | --    |  |  |
| River birch          | 2,121       | --                                       | --        | --        | 1,190     | --        | 931       | --        | --        | --        | --    |  |  |
| Black cherry         | 4,245       | --                                       | --        | 1,522     | 2,196     | --        | --        | 527       | --        | --        | --    |  |  |
| Black walnut         | 1,295       | --                                       | 573       | --        | --        | 722       | --        | --        | --        | --        | --    |  |  |
| Butternut            | 5,362       | --                                       | 515       | 1,190     | 2,640     | 499       | --        | --        | 518       | --        | --    |  |  |
| Other hardwoods      | 5,028       | --                                       | 815       | 1,885     | 896       | 908       | --        | --        | 524       | --        | --    |  |  |
| Total                | 304,598     | --                                       | 25,752    | 55,874    | 63,539    | 40,714    | 29,122    | 25,429    | 40,870    | 19,611    | 3,687 |  |  |
| All species          | 305,184     | --                                       | 26,338    | 55,874    | 63,539    | 40,714    | 29,122    | 25,429    | 40,870    | 19,611    | 3,687 |  |  |

<sup>1/</sup> International 1/4-inch rule.

Table 41.--Net annual growth of growing stock on commercial forest land by softwoods and hardwoods, Southwest Unit, Wisconsin, 1967 and 1982

(In thousand cubic feet)

| Species     | 1967   | 1982   |
|-------------|--------|--------|
| Softwoods   | 976    | 5,520  |
| Hardwoods   | 36,748 | 44,709 |
| All species | 37,724 | 50,229 |

Table 42.--Net annual growth of growing stock on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1982

(In thousand cubic feet)

| Species group        | All      | County  |          |       |       |       |           |           |       |
|----------------------|----------|---------|----------|-------|-------|-------|-----------|-----------|-------|
|                      | counties | Buffalo | Crawford | Dunn  | Grant | Iowa  | La Crosse | Lafayette | Pepin |
| Softwoods            |          |         |          |       |       |       |           |           |       |
| Jack pine            | 193      | --      | --       | 77    | --    | --    | 78        | --        | --    |
| Red pine             | 4,659    | 328     | --       | 1,468 | --    | 11    | 233       | --        | --    |
| White pine           | 508      | --      | --       | 46    | 33    | 63    | 89        | --        | 8     |
| White spruce         | 23       | --      | --       | --    | --    | --    | --        | --        | --    |
| Black spruce         | 38       | --      | --       | --    | --    | --    | --        | --        | --    |
| Balsam fir           | 3        | --      | --       | --    | --    | --    | --        | --        | --    |
| Hemlock              | --       | --      | --       | --    | --    | --    | --        | --        | --    |
| Tamarack             | --       | --      | --       | --    | --    | --    | --        | --        | --    |
| Eastern redcedar     | 96       | --      | --       | --    | 18    | --    | --        | --        | --    |
| Northern white-cedar | --       | --      | --       | --    | --    | --    | --        | --        | --    |
| Other softwoods      | --       | --      | --       | --    | --    | --    | --        | --        | --    |
| Total                | 5,520    | 328     | --       | 1,591 | 51    | 74    | 400       | --        | 8     |
| Hardwoods            |          |         |          |       |       |       |           |           |       |
| White oak            | 5,072    | 307     | 439      | 339   | 780   | 659   | 315       | 154       | 68    |
| Select red oak       | 8,644    | 1,119   | 819      | 977   | 739   | 365   | 770       | 40        | 201   |
| Other red oak        | 4,184    | 629     | 530      | 437   | 561   | 153   | 148       | 85        | 7     |
| Select hickory       | 1,927    | 237     | 347      | --    | 158   | 162   | 234       | 9         | --    |
| Other hickory        | 1,909    | 3       | 195      | 64    | 97    | 125   | 38        | 11        | --    |
| Basswood             | 3,570    | 113     | 356      | 229   | 330   | 267   | 198       | 71        | 143   |
| Beech                | --       | --      | --       | --    | --    | --    | --        | --        | --    |
| Yellow birch         | 38       | --      | --       | 28    | --    | --    | --        | --        | --    |
| Hard maple           | 3,102    | 21      | 433      | 222   | 306   | 94    | --        | --        | 55    |
| Soft maple           | 2,740    | 110     | 516      | 575   | 136   | 73    | 70        | --        | 92    |
| Elm                  | -886     | 33      | -217     | 17    | -227  | 149   | 20        | -118      | -185  |
| Black ash            | 465      | --      | 82       | 110   | 22    | 144   | 21        | --        | 13    |
| White & green ash    | 1,417    | 113     | 172      | 139   | 49    | 80    | --        | 16        | 46    |
| Cottonwood           | 474      | 67      | 3        | -15   | 34    | 22    | 89        | --        | 34    |
| Willow               | 191      | --      | 49       | -43   | --    | -14   | 24        | --        | 25    |
| Hackberry            | 87       | 9       | --       | --    | 9     | --    | 11        | --        | --    |
| Balsam poplar        | 62       | 17      | --       | --    | --    | --    | --        | --        | --    |
| Bigtooth aspen       | 1,907    | 404     | 179      | 194   | 4     | 120   | 191       | --        | 113   |
| Quaking aspen        | 2,607    | 499     | 3        | 241   | 767   | 254   | 191       | 24        | 6     |
| Paper birch          | 2,689    | 680     | 122      | 241   | 137   | 66    | 168       | --        | 136   |
| River birch          | 139      | -3      | 3        | --    | 97    | 32    | 9         | --        | 17    |
| Black cherry         | 2,221    | 372     | 57       | 25    | 289   | 206   | 101       | 108       | 14    |
| Black walnut         | 438      | --      | 69       | 4     | 158   | 104   | --        | 21        | --    |
| Butternut            | 809      | 15      | -10      | 34    | 140   | 34    | 23        | --        | 21    |
| Other hardwoods      | 903      | 219     | 22       | --    | 10    | 59    | 19        | --        | 13    |
| Total                | 44,709   | 4,964   | 4,169    | 3,818 | 4,596 | 3,154 | 2,640     | 421       | 819   |
| All species          | 50,229   | 5,292   | 4,169    | 5,409 | 4,647 | 3,228 | 3,040     | 421       | 827   |

(Table 42 continued on the next page)



(Table 42 continued)

| Species group        | County |          |           |       |             |        |
|----------------------|--------|----------|-----------|-------|-------------|--------|
|                      | Pierce | Richland | St. Croix | Sauk  | Trempealeau | Vernon |
| Softwoods            |        |          |           |       |             |        |
| Jack pine            | --     | --       | --        | 38    | --          | --     |
| Red pine             | 72     | --       | 1,072     | 180   | 1,295       | --     |
| White pine           | --     | --       | --        | 59    | 141         | 69     |
| White spruce         | --     | --       | 23        | --    | --          | --     |
| Black spruce         | --     | --       | --        | 38    | --          | --     |
| Balsam fir           | --     | --       | --        | 3     | --          | --     |
| Hemlock              | --     | --       | --        | --    | --          | --     |
| Tamarack             | --     | --       | --        | --    | --          | --     |
| Eastern redcedar     | --     | --       | --        | 8     | 70          | --     |
| Northern white-cedar | --     | --       | --        | --    | --          | --     |
| Other softwoods      | --     | --       | --        | --    | --          | --     |
| Total                | 72     | --       | 1,095     | 326   | 1,506       | 69     |
| Hardwoods            |        |          |           |       |             |        |
| White oak            | 95     | 437      | 98        | 367   | 302         | 712    |
| Select red oak       | 225    | 552      | 122       | 1,226 | 656         | 833    |
| Other red oak        | 77     | 171      | 107       | 335   | 727         | 217    |
| Select hickory       | --     | 247      | --        | 205   | 73          | 255    |
| Other hickory        | 272    | 642      | 11        | 178   | 66          | 207    |
| Basswood             | 190    | 430      | 79        | 368   | 92          | 704    |
| Beech                | --     | --       | --        | --    | --          | --     |
| Yellow birch         | --     | --       | --        | 10    | --          | --     |
| Hard maple           | 655    | 648      | 26        | 137   | --          | 505    |
| Soft maple           | --     | 205      | --        | 735   | 168         | 60     |
| Elm                  | -148   | -88      | -156      | 61    | -3          | -24    |
| Black ash            | --     | 18       | 55        | -9    | -12         | 21     |
| White & green ash    | 156    | 221      | 104       | 106   | 7           | 208    |
| Cottonwood           | 92     | 50       | .8        | --    | 51          | 39     |
| Willow               | --     | -7       | --        | --    | 157         | --     |
| Hackberry            | --     | 54       | --        | -4    | --          | 8      |
| Balsam poplar        | --     | --       | --        | --    | 45          | --     |
| Bigtooth aspen       | 48     | 155      | 43        | 332   | 175         | -51    |
| Quaking aspen        | 50     | -6       | 259       | 14    | -37         | 342    |
| Paper birch          | 85     | 130      | 328       | 40    | 406         | 150    |
| River birch          | --     | --       | --        | --    | -16         | --     |
| Black cherry         | 102    | 87       | -27       | 457   | 168         | 262    |
| Black walnut         | --     | 21       | --        | --    | --          | 61     |
| Butternut            | 255    | 235      | 5         | 14    | --          | 43     |
| Other hardwoods      | 54     | 65       | 239       | --    | 30          | 173    |
| Total                | 2,208  | 4,267    | 1,301     | 4,572 | 3,055       | 4,725  |
| All species          | 2,280  | 4,267    | 2,396     | 4,898 | 4,561       | 4,794  |

Table 43.--Net annual growth of sawtimber on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1982

(In thousand board feet)<sup>1/</sup>

| Species group        | All      | County  |          |        |        |       |           |           |        |
|----------------------|----------|---------|----------|--------|--------|-------|-----------|-----------|--------|
|                      | counties | Buffalo | Crawford | Dunn   | Grant  | Iowa  | La Crosse | Lafayette | Pepin  |
| <b>Softwoods</b>     |          |         |          |        |        |       |           |           |        |
| Jack pine            | 951      | --      | --       | 311    | --     | --    | 640       | --        | --     |
| Red pine             | 6,865    | 187     | --       | 2,882  | --     | --    | 2,151     | --        | --     |
| White pine           | 1,834    | --      | --       | 194    | 203    | 318   | 579       | --        | 43     |
| White spruce         | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Black spruce         | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Balsam fir           | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Hemlock              | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Tamarack             | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Eastern redcedar     | 105      | --      | --       | --     | 63     | --    | --        | --        | --     |
| Northern white-cedar | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Other softwoods      | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Total                | 9,755    | 187     | --       | 3,387  | 266    | 318   | 3,370     | --        | 43     |
| <b>Hardwoods</b>     |          |         |          |        |        |       |           |           |        |
| White oak            | 26,203   | 1,630   | 1,816    | 2,046  | 4,563  | 2,726 | 1,299     | 882       | 225    |
| Select red oak       | 42,851   | 4,829   | 3,643    | 4,062  | 3,665  | 1,681 | 4,548     | 208       | 963    |
| Other red oak        | 19,558   | 2,742   | 1,449    | 850    | 2,734  | 572   | 1,243     | 484       | 92     |
| Select hickory       | 6,446    | 730     | 461      | --     | 489    | 759   | 613       | 13        | --     |
| Other hickory        | 2,165    | 13      | 306      | --     | 78     | 23    | 253       | --        | --     |
| Basswood             | 15,119   | 442     | 1,894    | 975    | 1,125  | 890   | 671       | 157       | 490    |
| Beech                | --       | --      | --       | --     | --     | --    | --        | --        | --     |
| Yellow birch         | 85       | --      | --       | 68     | --     | --    | --        | --        | --     |
| Hard maple           | 12,036   | 105     | 912      | 1,157  | 1,521  | 211   | --        | --        | 285    |
| Soft maple           | 7,818    | 669     | 1,384    | 1,638  | 666    | 115   | 234       | --        | 283    |
| Elm                  | -3,154   | 1,047   | -1,152   | 81     | -672   | 524   | 886       | -651      | -1,278 |
| Black ash            | 1,111    | --      | 40       | 345    | 284    | --    | 29        | --        | -29    |
| White & green ash    | 7,112    | 1,629   | 634      | 779    | 425    | 81    | --        | 54        | 194    |
| Cottonwood           | 2,143    | 253     | 14       | -68    | 148    | 104   | 236       | --        | 124    |
| Willow               | 1,055    | --      | 935      | -183   | --     | 29    | --        | --        | 111    |
| Hackberry            | 251      | --      | --       | --     | --     | --    | --        | --        | --     |
| Balsam poplar        | 428      | 130     | --       | --     | --     | --    | --        | --        | --     |
| Bigtooth aspen       | 6,719    | 1,523   | 515      | 1,440  | 198    | 334   | -297      | --        | 798    |
| Quaking aspen        | 7,099    | 2,322   | 187      | 381    | 71     | --    | 215       | 77        | 246    |
| Paper birch          | 5,870    | 1,444   | 634      | 578    | 176    | 352   | 108       | --        | 136    |
| River birch          | 266      | 6       | 21       | --     | 17     | 38    | 113       | --        | 142    |
| Black cherry         | 3,868    | 696     | --       | 150    | 25     | 240   | 227       | 116       | --     |
| Black walnut         | 3,057    | --      | 297      | --     | 1,906  | 371   | --        | --        | --     |
| Butternut            | 3,200    | -46     | 132      | 301    | --     | 56    | 294       | --        | 33     |
| Other hardwoods      | 1,631    | 139     | 876      | --     | 63     | 176   | 66        | --        | 102    |
| Total                | 172,937  | 20,303  | 14,998   | 14,600 | 17,482 | 9,282 | 10,738    | 1,340     | 2,917  |
| All species          | 182,692  | 20,490  | 14,998   | 17,987 | 17,748 | 9,600 | 14,108    | 1,340     | 2,960  |

<sup>1/</sup> International 1/4-inch rule.

(Table 43 continued)

| Species group        | County |          |           |        |             |        |
|----------------------|--------|----------|-----------|--------|-------------|--------|
|                      | Pierce | Richland | St. Croix | Sauk   | Trempealeau | Vernon |
| Softwoods            |        |          |           |        |             |        |
| Jack pine            | --     | --       | --        | --     | --          | --     |
| Red pine             | 237    | --       | 1,147     | 261    | --          | --     |
| White pine           | --     | --       | --        | 284    | --          | 213    |
| White spruce         | --     | --       | --        | --     | --          | --     |
| Black spruce         | --     | --       | --        | --     | --          | --     |
| Balsam fir           | --     | --       | --        | --     | --          | --     |
| Hemlock              | --     | --       | --        | --     | --          | --     |
| Tamarack             | --     | --       | --        | --     | --          | --     |
| Eastern redcedar     | --     | --       | --        | 42     | --          | --     |
| Northern white-cedar | --     | --       | --        | --     | --          | --     |
| Other softwoods      | --     | --       | --        | --     | --          | --     |
| Total                | 237    | --       | 1,147     | 587    | --          | 213    |
| Hardwoods            |        |          |           |        |             |        |
| White oak            | 292    | 1,707    | 134       | 3,966  | 1,485       | 3,432  |
| Select red oak       | 1,469  | 2,362    | 837       | 6,039  | 3,560       | 4,985  |
| Other red oak        | 392    | 1,001    | 469       | 1,616  | 4,583       | 1,331  |
| Select hickory       | --     | 1,061    | --        | 1,324  | 19          | 977    |
| Other hickory        | 238    | 112      | --        | 994    | --          | 148    |
| Basswood             | 965    | 1,837    | 1,230     | 1,170  | 246         | 3,027  |
| Beech                | --     | --       | --        | --     | --          | --     |
| Yellow birch         | --     | --       | --        | 17     | --          | --     |
| Hard maple           | 2,720  | 2,500    | 123       | 260    | --          | 2,242  |
| Soft maple           | --     | 965      | --        | 983    | 786         | 95     |
| Elm                  | 223    | -685     | -429      | -268   | -393        | -387   |
| Black ash            | --     | --       | 458       | -48    | --          | 32     |
| White & green ash    | 1,338  | 1,385    | 30        | 28     | 28          | 507    |
| Cottonwood           | 435    | 237      | 28        | --     | 197         | 435    |
| Willow               | --     | -35      | --        | --     | 198         | --     |
| Hackberry            | --     | 316      | --        | -65    | --          | --     |
| Balsam poplar        | --     | --       | --        | --     | 298         | --     |
| Bigtooth aspen       | 218    | 766      | 518       | 400    | 555         | -249   |
| Quaking aspen        | 190    | 66       | 1,924     | 1,049  | 371         | --     |
| Paper birch          | 333    | 47       | 354       | 19     | 1,779       | -90    |
| River birch          | --     | --       | --        | --     | -71         | --     |
| Black cherry         | 19     | 133      | --        | 207    | 1,609       | 446    |
| Black walnut         | --     | --       | --        | --     | --          | 483    |
| Butternut            | 1,445  | 417      | --        | 139    | --          | 429    |
| Other hardwoods      | 131    | 62       | 16        | --     | --          | --     |
| Total                | 10,408 | 14,254   | 5,692     | 17,830 | 15,250      | 17,843 |
| All species          | 10,645 | 14,254   | 6,839     | 18,417 | 15,250      | 18,056 |

Table 44.--Net annual growth of growing stock on commercial forest land by ownership class and softwoods and hardwoods, Southwest Unit, Wisconsin, 1982

| Ownership class       | Growing stock                   |           |           | Sawtimber                                     |           |           |
|-----------------------|---------------------------------|-----------|-----------|---|-----------|-----------|
|                       | All species                     | Softwoods | Hardwoods | All species                                   | Softwoods | Hardwoods |
|                       | - - - Thousand cubic feet - - - |           |           | - - - Thousand board feet <sup>1/</sup> - - - |           |           |
| National Forest       | --                              | --        | --        | --  | --        | --        |
| Miscellaneous federal | 258                             | --        | 258       | 1,253   | --        | 1,253     |
| State                 | 369                             | --        | 369       | 1,957   | --        | 1,957     |
| County and municipal  | 89                              | 77        | 12        | 1,690   | 261       | 1,429     |
| Indian                | --                              | --        | --        | --  | --        | --        |
| Forest industry       | --                              | --        | --        | --  | --        | --        |
| Farmer                | 33,586                          | 2,471     | 31,115    | 123,556                                       | 6,139     | 117,417   |
| Misc. private-corp.   | 2,157                           | 189       | 1,968     | 8,071   | 1,332     | 6,739     |
| Misc. private-indiv.  | 13,770                          | 2,783     | 10,987    | 46,165  | 2,023     | 44,142    |
| All owners            | 50,229                          | 5,520     | 44,709    | 182,692                                       | 9,755     | 172,937   |

<sup>1/</sup> International 1/4-inch rule.

Table 45.--Net annual growth of growing stock on commercial forest land by species group and type, Southwest Unit, Wisconsin, 1982

(In thousand cubic feet)

| Species group        | Forest type |           |          |            |            |              |              |                      |
|----------------------|-------------|-----------|----------|------------|------------|--------------|--------------|----------------------|
|                      | All types   | Jack pine | Red pine | White pine | Balsam fir | White spruce | Black spruce | Northern white-cedar |
| Softwoods            |             |           |          |            |            |              |              |                      |
| Jack pine            | 193         | 145       | 39       | --         | --         | --           | --           | --                   |
| Red pine             | 4,659       | 39        | 4,188    | --         | --         | --           | --           | --                   |
| White pine           | 508         | 29        | 16       | 230        | --         | --           | --           | --                   |
| White spruce         | 23          | --        | 23       | --         | --         | --           | --           | --                   |
| Black spruce         | 38          | --        | 38       | --         | --         | --           | --           | --                   |
| Balsam fir           | 3           | --        | 3        | --         | --         | --           | --           | --                   |
| Hemlock              | --          | --        | --       | --         | --         | --           | --           | --                   |
| Tamarack             | --          | --        | --       | --         | --         | --           | --           | --                   |
| Eastern redcedar     | 96          | --        | --       | --         | --         | --           | --           | --                   |
| Northern white-cedar | --          | --        | --       | --         | --         | --           | --           | --                   |
| Other softwoods      | --          | --        | --       | --         | --         | --           | --           | --                   |
| Total                | 5,520       | 213       | 4,307    | 230        | --         | --           | --           | --                   |
| Hardwoods            |             |           |          |            |            |              |              |                      |
| White oak            | 5,072       | --        | --       | --         | --         | --           | --           | --                   |
| Select red oak       | 8,644       | --        | 28       | --         | --         | --           | --           | --                   |
| Other red oak        | 4,184       | 5         | 8        | --         | --         | --           | --           | --                   |
| Select hickory       | 1,927       | --        | --       | --         | --         | --           | --           | --                   |
| Other hickory        | 1,909       | --        | --       | --         | --         | --           | --           | --                   |
| Basswood             | 3,570       | --        | --       | --         | --         | --           | --           | --                   |
| Beech                | --          | --        | --       | --         | --         | --           | --           | --                   |
| Yellow birch         | 38          | --        | --       | --         | --         | --           | --           | --                   |
| Hard maple           | 3,102       | --        | --       | --         | --         | --           | --           | --                   |
| Soft maple           | 2,740       | --        | --       | --         | --         | --           | --           | --                   |
| Elm                  | -886        | 13        | --       | --         | --         | --           | --           | --                   |
| Black ash            | 465         | --        | --       | --         | --         | --           | --           | --                   |
| White & green ash    | 1,417       | --        | --       | --         | --         | --           | --           | --                   |
| Cottonwood           | 474         | --        | --       | 8          | --         | --           | --           | --                   |
| Willow               | 191         | --        | --       | --         | --         | --           | --           | --                   |
| Hackberry            | 87          | --        | --       | --         | --         | --           | --           | --                   |
| Balsam poplar        | 62          | --        | --       | --         | --         | --           | --           | --                   |
| Bigtooth aspen       | 1,907       | --        | --       | --         | --         | --           | --           | --                   |
| Quaking aspen        | 2,607       | 13        | -27      | --         | --         | --           | --           | --                   |
| Paper birch          | 2,689       | --        | --       | --         | --         | --           | --           | --                   |
| River birch          | 139         | --        | --       | --         | --         | --           | --           | --                   |
| Black cherry         | 2,221       | --        | 2        | --         | --         | --           | --           | --                   |
| Black walnut         | 438         | --        | --       | --         | --         | --           | --           | --                   |
| Butternut            | 809         | --        | --       | --         | --         | --           | --           | --                   |
| Other hardwoods      | 903         | --        | 12       | --         | --         | --           | --           | --                   |
| Total                | 44,709      | 31        | 23       | 8          | --         | --           | --           | --                   |
| All species          | 50,229      | 244       | 4,330    | 238        | --         | --           | --           | --                   |

(Table 45 continued on next page)



(Table 45 continued)

| Species group        | Forest type |             |                    |             |       |             |             |
|----------------------|-------------|-------------|--------------------|-------------|-------|-------------|-------------|
|                      | Tamarack    | Oak-hickory | Elm-ash-soft maple | Maple-birch | Aspen | Paper birch | Non-stocked |
| Softwoods            |             |             |                    |             |       |             |             |
| Jack pine            | --          | 9           | --                 | --          | --    | --          | --          |
| Red pine             | --          | 406         | --                 | 26          | --    | --          | --          |
| White pine           | --          | 91          | --                 | 134         | 8     | --          | --          |
| White spruce         | --          | --          | --                 | --          | --    | --          | --          |
| Black spruce         | --          | --          | --                 | --          | --    | --          | --          |
| Balsam fir           | --          | --          | --                 | --          | --    | --          | --          |
| Hemlock              | --          | --          | --                 | --          | --    | --          | --          |
| Tamarack             | --          | --          | --                 | --          | --    | --          | --          |
| Eastern redcedar     | --          | 70          | --                 | 26          | --    | --          | --          |
| Northern white-cedar | --          | --          | --                 | --          | --    | --          | --          |
| Other softwoods      | --          | --          | --                 | --          | --    | --          | --          |
| Total                | --          | 576         | --                 | 186         | 8     | --          | --          |
| Hardwoods            |             |             |                    |             |       |             |             |
| White oak            | --          | 4,300       | 165                | 524         | 39    | 28          | 16          |
| Select red oak       | --          | 6,980       | --                 | 1,340       | 66    | 221         | 9           |
| Other red oak        | --          | 3,926       | 49                 | 129         | 27    | 7           | 33          |
| Select hickory       | --          | 1,611       | --                 | 215         | --    | 101         | --          |
| Other hickory        | --          | 990         | 19                 | 839         | 61    | --          | --          |
| Basswood             | --          | 1,477       | 34                 | 2,004       | 27    | 19          | 9           |
| Beech                | --          | --          | --                 | --          | --    | --          | --          |
| Yellow birch         | --          | --          | --                 | 33          | 5     | --          | --          |
| Hard maple           | --          | 649         | --                 | 2,444       | --    | 9           | --          |
| Soft maple           | --          | 736         | 1,329              | 645         | 14    | 16          | --          |
| Elm                  | --          | -80         | -792               | 80          | 26    | -39         | -94         |
| Black ash            | --          | 57          | 343                | 65          | --    | --          | --          |
| White & green ash    | --          | 356         | 251                | 726         | 77    | --          | 7           |
| Cottonwood           | --          | 124         | 169                | 95          | 78    | --          | --          |
| Willow               | --          | --          | 149                | 11          | 24    | --          | 7           |
| Hackberry            | --          | 9           | 30                 | 48          | --    | --          | --          |
| Balsam poplar        | --          | 45          | --                 | --          | --    | 17          | --          |
| Bigtooth aspen       | --          | 596         | 10                 | 478         | 764   | 59          | --          |
| Quaking aspen        | --          | 818         | --                 | 307         | 1,470 | 40          | -14         |
| Paper birch          | --          | 1,230       | 51                 | 236         | 132   | 1,040       | --          |
| River birch          | --          | 5           | 134                | --          | --    | --          | --          |
| Black cherry         | --          | 1,271       | 7                  | 908         | --    | 33          | --          |
| Black walnut         | --          | 328         | --                 | 98          | --    | --          | 12          |
| Butternut            | --          | 438         | --                 | 366         | --    | --          | 5           |
| Other hardwoods      | --          | 248         | 275                | 343         | 19    | 6           | --          |
| Total                | --          | 26,114      | 2,223              | 11,934      | 2,829 | 1,557       | -10         |
| All species          | --          | 26,690      | 2,223              | 12,120      | 2,837 | 1,557       | -10         |

Table 46.--Net annual growth of sawtimber on commercial forest land by species group and type, Southwest Unit, Wisconsin, 1982

(In thousand board feet)<sup>1/</sup>

| Species group        | All types | Forest type |          |            |            |              |              |                      |
|----------------------|-----------|-------------|----------|------------|------------|--------------|--------------|----------------------|
|                      |           | Jack pine   | Red pine | White pine | Balsam fir | White spruce | Black spruce | Northern white-cedar |
| Softwoods            |           |             |          |            |            |              |              |                      |
| Jack pine            | 951       | 899         | 52       | --         | --         | --           | --           | --                   |
| Red pine             | 6,865     | 261         | 5,000    | --         | --         | --           | --           | --                   |
| White pine           | 1,834     | 168         | 84       | 579        | --         | --           | --           | --                   |
| White spruce         | --        | --          | --       | --         | --         | --           | --           | --                   |
| Black spruce         | --        | --          | --       | --         | --         | --           | --           | --                   |
| Balsam fir           | --        | --          | --       | --         | --         | --           | --           | --                   |
| Hemlock              | --        | --          | --       | --         | --         | --           | --           | --                   |
| Tamarack             | --        | --          | --       | --         | --         | --           | --           | --                   |
| Eastern redcedar     | 105       | --          | --       | --         | --         | --           | --           | --                   |
| Northern white-cedar | --        | --          | --       | --         | --         | --           | --           | --                   |
| Other softwoods      | --        | --          | --       | --         | --         | --           | --           | --                   |
| Total                | 9,755     | 1,328       | 5,136    | 579        | --         | --           | --           | --                   |
| Hardwoods            |           |             |          |            |            |              |              |                      |
| White oak            | 26,203    | --          | --       | --         | --         | --           | --           | --                   |
| Select red oak       | 42,851    | --          | --       | --         | --         | --           | --           | --                   |
| Other red oak        | 19,558    | 27          | 36       | --         | --         | --           | --           | --                   |
| Select hickory       | 6,446     | --          | --       | --         | --         | --           | --           | --                   |
| Other hickory        | 2,165     | --          | --       | --         | --         | --           | --           | --                   |
| Basswood             | 15,119    | --          | --       | --         | --         | --           | --           | --                   |
| Beech                | --        | --          | --       | --         | --         | --           | --           | --                   |
| Yellow birch         | 85        | --          | --       | --         | --         | --           | --           | --                   |
| Hard maple           | 12,036    | --          | --       | --         | --         | --           | --           | --                   |
| Soft maple           | 7,818     | --          | --       | --         | --         | --           | --           | --                   |
| Elm                  | -3,154    | 104         | --       | --         | --         | --           | --           | --                   |
| Black ash            | 1,111     | --          | --       | --         | --         | --           | --           | --                   |
| White & green ash    | 7,112     | --          | --       | --         | --         | --           | --           | --                   |
| Cottonwood           | 2,143     | --          | --       | 36         | --         | --           | --           | --                   |
| Willow               | 1,055     | --          | --       | --         | --         | --           | --           | --                   |
| Hackberry            | 251       | --          | --       | --         | --         | --           | --           | --                   |
| Balsam poplar        | 428       | --          | --       | --         | --         | --           | --           | --                   |
| Bigtooth aspen       | 6,719     | --          | --       | --         | --         | --           | --           | --                   |
| Quaking aspen        | 7,099     | --          | --       | --         | --         | --           | --           | --                   |
| Paper birch          | 5,870     | --          | --       | --         | --         | --           | --           | --                   |
| River birch          | 266       | --          | --       | --         | --         | --           | --           | --                   |
| Black cherry         | 3,868     | --          | 6        | --         | --         | --           | --           | --                   |
| Black walnut         | 3,057     | --          | --       | --         | --         | --           | --           | --                   |
| Butternut            | 3,200     | --          | --       | --         | --         | --           | --           | --                   |
| Other hardwoods      | 1,631     | --          | 66       | --         | --         | --           | --           | --                   |
| Total                | 172,937   | 131         | 108      | 36         | --         | --           | --           | --                   |
| All species          | 182,692   | 1,459       | 5,244    | 615        | --         | --           | --           | --                   |

(Table 46 continued on next page)

<sup>1/</sup>International 1/4-inch rule.

(Table 46 continued)

|                      | Forest type |             |                    |             |       |             |        |             |
|----------------------|-------------|-------------|--------------------|-------------|-------|-------------|--------|-------------|
| Species group        | Tamarack    | Oak-hickory | Elm-ash-soft maple | Maple-birch | Aspen | Paper birch | Exotic | Non-stocked |
| Softwoods            |             |             |                    |             |       |             |        |             |
| Jack pine            | --          | --          | --                 | --          | --    | --          | --     | --          |
| Red pine             | --          | 457         | --                 | 1,147       | --    | --          | --     | --          |
| White pine           | --          | 362         | --                 | 641         | --    | --          | --     | --          |
| White spruce         | --          | --          | --                 | --          | --    | --          | --     | --          |
| Black spruce         | --          | --          | --                 | --          | --    | --          | --     | --          |
| Balsam fir           | --          | --          | --                 | --          | --    | --          | --     | --          |
| Hemlock              | --          | --          | --                 | --          | --    | --          | --     | --          |
| Tamarack             | --          | --          | --                 | --          | --    | --          | --     | --          |
| Eastern redcedar     | --          | --          | --                 | 105         | --    | --          | --     | --          |
| Northern white-cedar | --          | --          | --                 | --          | --    | --          | --     | --          |
| Other softwoods      | --          | --          | --                 | --          | --    | --          | --     | --          |
| Total                | --          | 819         | --                 | 1,893       | --    | --          | --     | --          |
| Hardwoods            |             |             |                    |             |       |             |        |             |
| White oak            | --          | 22,085      | 29                 | 3,773       | 113   | 169         | --     | 34          |
| Select red oak       | --          | 35,726      | --                 | 5,903       | 576   | 599         | --     | 47          |
| Other red oak        | --          | 17,953      | 151                | 994         | 233   | 36          | --     | 128         |
| Select hickory       | --          | 5,569       | --                 | 619         | --    | 258         | --     | --          |
| Other hickory        | --          | 1,583       | --                 | 559         | 23    | --          | --     | --          |
| Basswood             | --          | 5,852       | 174                | 8,088       | 958   | --          | --     | 47          |
| Beech                | --          | --          | --                 | --          | --    | --          | --     | --          |
| Yellow birch         | --          | --          | --                 | 59          | 26    | --          | --     | --          |
| Hard maple           | --          | 2,288       | --                 | 9,748       | --    | --          | --     | --          |
| Soft maple           | --          | 1,227       | 4,975              | 1,543       | --    | 73          | --     | --          |
| Elm                  | --          | 1,135       | -2,589             | -1,937      | 640   | -273        | --     | -234        |
| Black ash            | --          | 241         | 742                | 128         | --    | --          | --     | --          |
| White & green ash    | --          | 964         | 1,250              | 3,649       | 1,219 | --          | --     | 30          |
| Cottonwood           | --          | 580         | 987                | 403         | 137   | --          | --     | --          |
| Willow               | --          | --          | 986                | 40          | --    | --          | --     | 29          |
| Hackberry            | --          | --          | 156                | 95          | --    | --          | --     | --          |
| Balsam poplar        | --          | 298         | --                 | --          | --    | 130         | --     | --          |
| Bigtooth aspen       | --          | 3,210       | 51                 | 885         | 2,150 | 423         | --     | --          |
| Quaking aspen        | --          | 2,389       | --                 | 1,960       | 1,953 | 797         | --     | --          |
| Paper birch          | --          | 1,653       | 176                | 63          | 177   | 3,801       | --     | --          |
| River birch          | --          | 74          | 192                | --          | --    | --          | --     | --          |
| Black cherry         | --          | 1,327       | --                 | 2,496       | --    | 39          | --     | --          |
| Black walnut         | --          | 1,654       | --                 | 1,374       | --    | --          | --     | 29          |
| Butternut            | --          | 1,148       | --                 | 2,052       | --    | --          | --     | --          |
| Other hardwoods      | --          | 230         | 1,137              | 156         | 42    | --          | --     | --          |
| Total                | --          | 107,186     | 8,417              | 42,650      | 8,247 | 6,052       | --     | 110         |
| All species          | --          | 108,005     | 8,417              | 44,543      | 8,247 | 6,052       | --     | 110         |

Table 47.--Net annual growth of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Southwest Unit, Wisconsin, 1982

(In thousand cubic feet)

| Forest type and<br>stand-size class | All<br>classes | Basal area class (square feet per acre) |       |       |       |       |       |       |       |       |        |         |         |         |      |
|-------------------------------------|----------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|------|
|                                     |                | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 | 181+ |
| Jack pine                           |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 167            | --                                      | --    | --    | --    | --    | --    | --    | --    | 70    | --     | --      | 97      | --      | --   |
| Polettinber                         | 77             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | 77      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 244            | --                                      | --    | --    | --    | --    | --    | --    | --    | 70    | --     | --      | 174     | --      | --   |
| Red pine                            |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 259            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | 259     | --   |
| Polettinber                         | 3,462          | --                                      | --    | --    | --    | --    | --    | --    | 218   | 400   | --     | --      | 1,070   | 855     | 919  |
| Sapling & seedling                  | 609            | --                                      | 174   | --    | --    | --    | 435   | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 4,330          | --                                      | 174   | --    | --    | --    | 435   | --    | 218   | 400   | --     | --      | 1,070   | 1,114   | 919  |
| White pine                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 97             | --                                      | --    | --    | 97    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Polettinber                         | 141            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | 141     | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 238            | --                                      | --    | --    | 97    | --    | --    | --    | --    | --    | --     | 141     | --      | --      | --   |
| Balsam fir                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Polettinber                         | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| White spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Polettinber                         | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Black spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Polettinber                         | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Northern white-cedar                |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Polettinber                         | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |

(Table 47 continued on next page)



(Table 47 continued)

| Forest type and stand-size class | All classes | Basal area class (square feet per acre) |       |       |       |       |       |       |       |       |        |         |         |         |       | 181+  |
|----------------------------------|-------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|-------|-------|
|                                  |             | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 |       |       |
| Tamarack                         |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Oak-hickory                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 17,650      | --                                      | --    | 135   | 168   | 351   | 687   | 857   | 1,546 | 2,554 | 1,650  | 4,959   | 3,480   | 1,136   | 127   | 127   |
| Poletimber                       | 6,964       | --                                      | --    | --    | 101   | 151   | 425   | 460   | 738   | 887   | 771    | 1,884   | 839     | 402     | 306   | 306   |
| Sapling & seedling               | 2,076       | 9                                       | 60    | 231   | 181   | 135   | 498   | 284   | 19    | 274   | 150    | 113     | 122     | --      | --    | --    |
| All stands                       | 26,690      | 9                                       | 60    | 366   | 450   | 637   | 1,610 | 1,601 | 2,303 | 3,715 | 2,571  | 6,956   | 4,441   | 1,538   | 433   | 433   |
| Elm-ash-soft maple               |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 950         | --                                      | --    | --    | 16    | -31   | 215   | --    | 39    | 281   | 198    | 85      | 113     | 34      | --    | --    |
| Poletimber                       | 710         | --                                      | --    | --    | --    | --    | 215   | --    | 137   | --    | --     | 358     | --      | --      | --    | --    |
| Sapling & seedling               | 563         | --                                      | 100   | 150   | 58    | 67    | 109   | --    | --    | --    | --     | --      | 79      | --      | --    | --    |
| All stands                       | 2,223       | --                                      | 100   | 150   | 74    | 36    | 539   | --    | 176   | 281   | 198    | 443     | 192     | 34      | --    | --    |
| Maple-birch                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 5,744       | --                                      | --    | 77    | --    | 132   | 394   | 282   | 797   | 530   | 314    | 2,202   | 944     | 72      | --    | --    |
| Poletimber                       | 4,909       | --                                      | --    | --    | 26    | 210   | 716   | 64    | 471   | 780   | 87     | 1,384   | 1,007   | 164     | --    | --    |
| Sapling & seedling               | 1,467       | 5                                       | 135   | 339   | 358   | 346   | 188   | 42    | 54    | --    | --     | --      | --      | --      | --    | --    |
| All stands                       | 12,120      | 5                                       | 135   | 416   | 384   | 688   | 1,298 | 388   | 1,322 | 1,310 | 401    | 3,586   | 1,951   | 236     | --    | --    |
| Aspen                            |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 748         | --                                      | --    | --    | --    | --    | 70    | --    | 41    | 207   | --     | 257     | 173     | --      | --    | --    |
| Poletimber                       | 1,185       | --                                      | 445   | --    | --    | 50    | 148   | 40    | 41    | --    | 319    | 70      | 72      | --      | --    | --    |
| Sapling & seedling               | 904         | 17                                      | --    | --    | 73    | 615   | 199   | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| All stands                       | 2,837       | 17                                      | 445   | --    | 73    | 665   | 417   | 40    | 82    | 207   | 319    | 327     | 245     | --      | --    | --    |
| Paper birch                      |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 371         | --                                      | --    | --    | --    | --    | 67    | 63    | 36    | 87    | --     | --      | --      | --      | 118   | 118   |
| Poletimber                       | 1,089       | --                                      | --    | --    | --    | 290   | --    | --    | 232   | 67    | 69     | 89      | 342     | --      | --    | --    |
| Sapling & seedling               | 97          | --                                      | --    | --    | 40    | --    | --    | 57    | --    | --    | --     | --      | --      | --      | --    | --    |
| All stands                       | 1,557       | --                                      | --    | --    | 40    | 290   | 67    | 120   | 268   | 154   | 69     | 89      | 342     | --      | 118   | 118   |
| Exotic                           |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --    | --    |
| Nonstocked                       |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| All types                        | -10         | --                                      | --    | 7     | --    | --    | -30   | -12   | 9     | --    | --     | 16      | --      | --      | --    | --    |
| All types                        |             |   |       |       |       |       |       |       |       |       |        |         |         |         |       |       |
| Sawtimber                        | 25,986      | --                                      | --    | 212   | 281   | 452   | 1,433 | 1,202 | 2,459 | 3,729 | 2,162  | 7,503   | 4,807   | 1,501   | 245   | 245   |
| Poletimber                       | 18,537      | --                                      | 445   | --    | 127   | 701   | 1,504 | 564   | 1,837 | 2,134 | 1,246  | 3,926   | 3,407   | 1,421   | 1,225 | 1,225 |
| Sapling & seedling               | 5,716       | 31                                      | 469   | 720   | 710   | 1,163 | 1,429 | 383   | 73    | 274   | 150    | 113     | 201     | --      | --    | --    |
| Nonstocked                       | -10         | --                                      | --    | 7     | --    | --    | -30   | -12   | 9     | --    | --     | 16      | --      | --      | --    | --    |
| All stands                       | 50,229      | 31                                      | 914   | 939   | 1,118 | 2,316 | 4,336 | 2,137 | 4,378 | 6,137 | 3,558  | 11,558  | 8,415   | 2,922   | 1,470 | 1,470 |

Table 48.--Net annual growth of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Southwest Unit, Wisconsin, 1982

(In thousand board feet)<sup>1/</sup>

| Forest type and<br>stand-size class | All<br>classes | Basal area class (square feet per acre) |       |       |       |       |       |       |       |       |        |         |         |         |      |
|-------------------------------------|----------------|---|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------|---------|---------|------|
|                                     |                | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-90 | 91-100 | 101-120 | 121-150 | 151-180 | 181+ |
| Jack pine                           |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 1,198          | --                                      | --    | --    | --    | --    | --    | --    | --    | 531   | --     | --      | 667     | --      | --   |
| Poletimber                          | 261            | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | 261     | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 1,459          | --                                      | --    | --    | --    | --    | --    | --    | --    | 531   | --     | --      | 928     | --      | --   |
| Red pine                            |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 2,217          | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | 2,217   | --   |
| Poletimber                          | 3,027          | --                                      | --    | --    | --    | --    | --    | --    | --    | 1,332 | --     | --      | 1,285   | --      | 410  |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 5,244          | --                                      | --    | --    | --    | --    | --    | --    | --    | 1,332 | --     | --      | 1,285   | 2,217   | 410  |
| White pine                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | 615            | --                                      | --    | --    | 615   | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | 615            | --                                      | --    | --    | 615   | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Balsam fir                          |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| White spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Black spruce                        |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Northern white-cedar                |                |   |       |       |       |       |       |       |       |       |        |         |         |         |      |
| Sawtimber                           | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Poletimber                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| Sapling & seedling                  | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |
| All stands                          | --             | --                                      | --    | --    | --    | --    | --    | --    | --    | --    | --     | --      | --      | --      | --   |

<sup>1/</sup>International 1/4-inch rule.

(Table 48 continued on next page)

(Table 48 continued)

| Forest type and stand-size class | All classes | Basal area class (square feet per acre) |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
|----------------------------------|-------------|---|-------|-------|-------|-------|--------|-------|--------|--------|--------|---------|---------|---------|-------|-------|
|                                  |             | 0-10                                    | 11-20 | 21-30 | 31-40 | 41-50 | 51-60  | 61-70 | 71-80  | 81-90  | 91-100 | 101-120 | 121-150 | 151-180 | 181+  |       |
| Tamarack                         |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Oak-hickory                      |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 89,129      | --                                      | --    | 735   | 932   | 1,959 | 2,537  | 4,951 | 9,683  | 14,512 | 8,979  | 24,095  | 14,814  | 5,210   | 722   | 722   |
| Poletimber                       | 12,280      | --                                      | --    | --    | 258   | 40    | 43     | 1,145 | 668    | 471    | 2,580  | 3,839   | 2,135   | 130     | 971   | 971   |
| Sapling & seedling               | 6,596       | 64                                      | 816   | 1,382 | 543   | 524   | 991    | 690   | 64     | 334    | 199    | 683     | 306     | --      | --    | --    |
| All stands                       | 108,005     | 64                                      | 816   | 2,117 | 1,733 | 2,523 | 3,571  | 6,786 | 10,415 | 15,317 | 11,758 | 28,617  | 17,255  | 5,340   | 1,693 | 1,693 |
| Elm-ash-soft maple               |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 5,111       | --                                      | --    | --    | 180   | 69    | 851    | --    | 435    | 1,407  | 1,213  | 537     | 572     | -153    | --    | --    |
| Poletimber                       | 510         | --                                      | --    | --    | --    | --    | 220    | --    | --     | --     | --     | 290     | --      | --      | --    | --    |
| Sapling & seedling               | 2,796       | --                                      | 363   | 269   | 293   | 1,661 | 76     | --    | --     | --     | --     | --      | 134     | --      | --    | --    |
| All stands                       | 8,417       | --                                      | 363   | 269   | 473   | 1,730 | 1,147  | --    | 435    | 1,407  | 1,213  | 827     | 706     | -153    | --    | --    |
| Maple-birch                      |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 26,542      | --                                      | --    | 312   | 125   | 465   | 2,399  | 726   | 3,118  | 2,549  | 2,647  | 9,386   | 4,275   | 540     | --    | --    |
| Poletimber                       | 12,094      | --                                      | --    | --    | --    | 120   | 4,095  | -947  | 656    | 1,414  | 242    | 2,997   | 2,791   | 726     | --    | --    |
| Sapling & seedling               | 5,907       | 25                                      | 541   | 671   | 1,178 | 1,749 | 1,340  | 263   | 140    | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | 44,543      | 25                                      | 541   | 983   | 1,303 | 2,334 | 7,834  | 42    | 3,914  | 3,963  | 2,889  | 12,383  | 7,066   | 1,266   | --    | --    |
| Aspen                            |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 4,771       | --                                      | --    | --    | --    | --    | 1,287  | --    | 398    | 979    | --     | -118    | 2,225   | --      | --    | --    |
| Poletimber                       | 2,343       | --                                      | 23    | --    | --    | 187   | 835    | --    | 268    | --     | 251    | 400     | 379     | --      | --    | --    |
| Sapling & seedling               | 1,133       | --                                      | --    | --    | 20    | 1,113 | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | 8,247       | --                                      | 23    | --    | 20    | 1,300 | 2,122  | --    | 666    | 979    | 251    | 282     | 2,604   | --      | --    | --    |
| Paper birch                      |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 2,782       | --                                      | --    | --    | --    | --    | 342    | 763   | 291    | 662    | --     | --      | --      | --      | 724   | 724   |
| Poletimber                       | 3,062       | --                                      | --    | --    | --    | 528   | --     | --    | 1,122  | 125    | 258    | 119     | 910     | --      | --    | --    |
| Sapling & seedling               | 208         | --                                      | --    | --    | 19    | --    | --     | 189   | --     | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | 6,052       | --                                      | --    | --    | 19    | 528   | 342    | 952   | 1,413  | 787    | 258    | 119     | 910     | --      | 724   | 724   |
| Exotic                           |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Poletimber                       | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Sapling & seedling               | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | --          | --                                      | --    | --    | --    | --    | --     | --    | --     | --     | --     | --      | --      | --      | --    | --    |
| Nonstocked                       | 110         | --                                      | --    | 30    | --    | --    | -57    | 71    | 66     | --     | --     | --      | --      | --      | --    | --    |
| All types                        |             |   |       |       |       |       |        |       |        |        |        |         |         |         |       |       |
| Sawtimber                        | 132,365     | --                                      | --    | 1,047 | 1,852 | 2,493 | 7,416  | 6,440 | 13,925 | 20,640 | 12,839 | 33,900  | 22,553  | 7,814   | 1,446 | 1,446 |
| Poletimber                       | 33,577      | --                                      | 23    | --    | 258   | 875   | 5,193  | 198   | 2,714  | 3,342  | 3,331  | 7,645   | 7,761   | 856     | 1,381 | 1,381 |
| Sapling & seedling               | 16,640      | 89                                      | 1,720 | 2,322 | 2,053 | 5,047 | 2,407  | 1,142 | 204    | 334    | 199    | 683     | 440     | --      | --    | --    |
| Nonstocked                       | 110         | --                                      | --    | 30    | --    | --    | -57    | 71    | 66     | --     | --     | --      | --      | --      | --    | --    |
| All stands                       | 182,692     | 89                                      | 1,743 | 3,399 | 4,163 | 8,415 | 14,959 | 7,851 | 16,909 | 24,316 | 16,369 | 42,228  | 30,754  | 8,670   | 2,827 | 2,827 |

Table 49.--Timber removals<sup>1/</sup> from growing stock on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1982  
(In thousand cubic feet)

| Species group                 | County       |         |          |       |       |       |           |           |       |        |              |
|-------------------------------|--------------|---------|----------|-------|-------|-------|-----------|-----------|-------|--------|--------------|
|                               | All counties | Buffalo | Crawford | Dunn  | Grant | Iowa  | La Crosse | Lafayette | Pepin | Pierce | Richland St. |
| Softwoods                     |              |         |          |       |       |       |           |           |       |        | Croix        |
| Jack pine                     | 315          | --      | --       | 230   | --    | --    | 3         | --        | --    | --     | Sauk         |
| Red pine                      | 1,648        | 1       | --       | 1,247 | --    | --    | 20        | --        | --    | 2      | Trempealeau  |
| White pine                    | 230          | --      | --       | 117   | 1     | 2/    | 2/        | --        | 15    | --     | Vernon       |
| White spruce                  | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Black spruce                  | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Balsam fir                    | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Hemlock                       | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Tamarack                      | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Northern white-cedar          | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Other softwoods               | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     |              |
| Total                         | 2,193        | 1       | --       | 1,594 | 1     | 2/    | 23        | --        | 15    | 2      | 333          |
| 205                           |              |         |          |       |       |       |           |           |       |        |              |
| Hardwoods                     |              |         |          |       |       |       |           |           |       |        |              |
| White oak                     | 3,972        | 361     | 283      | 258   | 703   | 348   | 208       | 54        | 141   | 72     | 534          |
| Select red oak                | 10,627       | 1,585   | 761      | 966   | 645   | 384   | 818       | 3         | 462   | 247    | 1,849        |
| Other red oak                 | 4,981        | 969     | 300      | 335   | 459   | 323   | 389       | 24        | 14    | 82     | 1,068        |
| Hickory                       | 231          | 36      | 9        | 8     | 1     | 10    | 24        | --        | --    | 8      | 58           |
| Basswood                      | 1,293        | 144     | 33       | 191   | 61    | 28    | 19        | 1         | 54    | 246    | 222          |
| Beech                         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --           |
| Yellow birch                  | 39           | --      | --       | 26    | --    | --    | --        | --        | --    | --     | --           |
| Hard maple                    | 1,234        | 36      | 71       | 214   | 44    | 13    | --        | --        | 68    | 248    | 13           |
| Soft maple                    | 1,208        | 156     | 62       | 152   | 73    | 14    | 219       | --        | 62    | --     | 129          |
| Elm                           | 1,729        | 161     | 79       | 200   | 258   | 261   | 45        | 1         | 59    | 169    | 190          |
| Ash                           | 411          | 49      | 28       | 72    | 17    | 10    | 10        | --        | 22    | 32     | 168          |
| Cottonwood                    | 85           | 24      | 3        | 10    | 11    | --    | 1         | --        | 4     | 18     | 85           |
| Balsam poplar                 | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | 1            |
| Bigtooth aspen                | 1,229        | 163     | 19       | 124   | 9     | 3     | 88        | --        | --    | 6      | --           |
| Quaking aspen                 | 566          | 164     | 3        | 52    | 13    | 3     | 43        | --        | 45    | 6      | 417          |
| Paper birch                   | 287          | 140     | 6        | 6     | 4     | --    | 9         | --        | 15    | 10     | 23           |
| Black walnut                  | 99           | --      | 12       | --    | 37    | 35    | --        | 1         | --    | 3      | 49           |
| Other hardwoods <sup>3/</sup> | 438          | 141     | 8        | 10    | 9     | 48    | 52        | 1         | 10    | --     | 12           |
| Total                         | 28,429       | 4,129   | 1,677    | 2,624 | 2,344 | 1,480 | 1,925     | 85        | 971   | 1,142  | 573          |
| 1,538                         |              |         |          |       |       |       |           |           |       |        |              |
| All species                   | 30,622       | 4,130   | 1,677    | 4,218 | 2,345 | 1,480 | 1,948     | 85        | 986   | 1,144  | 573          |
| 2,733                         |              |         |          |       |       |       |           |           |       |        |              |

<sup>1/</sup>Removals in 1982 are trend-level removals.

<sup>2/</sup>Less than 500 cubic feet.

<sup>3/</sup>Includes black cherry and butternut.



Table 50.---Timber removals from sawtimber on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1982  
(In thousand board feet)<sup>1/</sup>

| Species group                 | All<br>counties | County  |          |        |        |       |           |           |       |        |          |           |        |             |        |
|-------------------------------|-----------------|---------|----------|--------|--------|-------|-----------|-----------|-------|--------|----------|-----------|--------|-------------|--------|
|                               |                 | Buffalo | Crawford | Dunn   | Grant  | Iowa  | La Crosse | Lafayette | Pepin | Pierce | Richland | St. Croix | Sauk   | Trempealeau | Vernon |
| Softwoods                     |                 |         |          |        |        |       |           |           |       |        |          |           |        |             |        |
| Jack pine                     | 354             | --      | --       | 350    | --     | --    | 4         | --        | --    | --     | --       | --        | --     | --          | --     |
| Red pine                      | 1,464           | 5       | --       | 1,202  | --     | --    | 37        | --        | --    | 3      | --       | --        | 217    | --          | --     |
| White pine                    | 854             | --      | --       | 580    | 5      | 1     | 1         | --        | 84    | --     | --       | --        | 86     | --          | 97     |
| White spruce                  | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Black spruce                  | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Balsam fir                    | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Balsam                        | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Hemlock                       | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Tamarack                      | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Northern white-cedar          | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Other softwoods               | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Total                         | 2,672           | 5       | --       | 2,132  | 5      | 1     | 42        | --        | 84    | 3      | --       | --        | 303    | --          | 97     |
| Hardwoods                     |                 |         |          |        |        |       |           |           |       |        |          |           |        |             |        |
| White oak                     | 18,124          | 1,488   | 1,352    | 1,206  | 3,393  | 1,697 | 1,025     | 287       | 600   | 312    | 1,109    | 90        | 1,918  | 1,574       | 2,073  |
| Select red oak                | 49,484          | 7,745   | 3,999    | 5,175  | 3,065  | 1,883 | 4,406     | 16        | 2,040 | 1,122  | 2,290    | 373       | 6,009  | 4,956       | 6,405  |
| Other red oak                 | 21,004          | 4,550   | 1,067    | 1,015  | 1,693  | 1,375 | 1,630     | 81        | 62    | 400    | 893      | 228       | 1,853  | 4,574       | 1,583  |
| Hickory                       | 1,027           | 172     | 44       | --     | 7      | 48    | 112       | --        | --    | 31     | 23       | --        | 290    | 99          | 201    |
| Basswood                      | 5,216           | 666     | 137      | 920    | 274    | 133   | 94        | 4         | 217   | 1,177  | 429      | 36        | 390    | 321         | 418    |
| Beech                         | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Yellow birch                  | 2               | --      | --       | 1      | --     | --    | --        | --        | --    | --     | --       | --        | 1      | --          | --     |
| Hard maple                    | 6,206           | 119     | 361      | 1,119  | 211    | 71    | --        | --        | 316   | 1,326  | 1,181    | --        | 467    | --          | 1,035  |
| Soft maple                    | 3,545           | 623     | 5        | 423    | 169    | 21    | 571       | --        | 140   | --     | 98       | --        | 514    | 544         | 437    |
| Elm                           | 6,436           | 492     | 309      | 921    | 1,002  | 737   | 195       | 5         | 209   | 775    | 494      | 439       | 305    | 208         | 345    |
| Ash                           | 1,875           | 113     | 135      | 330    | 82     | 49    | 50        | --        | 85    | 154    | 470      | 26        | 108    | 68          | 205    |
| Cottonwood                    | 406             | 116     | 11       | 48     | 48     | 1     | 5         | --        | 16    | 97     | 9        | --        | --     | 30          | 25     |
| Balsam poplar                 | --              | --      | --       | --     | --     | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Bigtooth aspen                | 4,032           | 811     | 63       | 680    | 52     | 15    | 301       | --        | 174   | 38     | 300      | 31        | 288    | 1,159       | 120    |
| Quaking aspen                 | 1,804           | 714     | 7        | 162    | 14     | --    | 82        | --        | 15    | 36     | 23       | 71        | 204    | 476         | --     |
| Paper birch                   | 495             | 134     | 17       | 24     | 3      | --    | 41        | --        | 39    | 17     | --       | 22        | 37     | 161         | --     |
| Black walnut                  | 338             | --      | 58       | --     | 179    | 91    | --        | --        | --    | --     | --       | --        | --     | --          | 10     |
| Other hardwoods <sup>2/</sup> | 1,245           | 301     | 37       | 50     | 37     | 133   | 170       | 4         | 33    | 3      | 42       | 30        | 119    | 255         | 31     |
| Total                         | 121,239         | 18,044  | 7,602    | 12,074 | 10,229 | 6,254 | 8,682     | 397       | 3,946 | 5,488  | 7,361    | 1,346     | 12,503 | 14,425      | 12,888 |
| All species                   | 123,911         | 18,049  | 7,602    | 14,206 | 10,234 | 6,255 | 8,724     | 397       | 4,030 | 5,491  | 7,361    | 1,346     | 12,806 | 14,425      | 12,985 |

<sup>1/</sup> International 1/4-inch rule.

<sup>2/</sup> Includes black cherry and butternut.

Table 51.--Growing-stock average annual removals on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1967-1982  
(In thousand cubic feet per year)

| Species group        | All counties |          |      |       |      |           |           |       |        |          |           |       |             |        | County |  |  |  |  |
|----------------------|--------------|----------|------|-------|------|-----------|-----------|-------|--------|----------|-----------|-------|-------------|--------|--------|--|--|--|--|
|                      | Buffalo      | Crawford | Dunn | Grant | Iowa | La Crosse | Lafayette | Pepin | Pierce | Richland | St. Croix | Sauk  | Trempealeau | Vernon |        |  |  |  |  |
| Softwoods            |              |          |      |       |      |           |           |       |        |          |           |       |             |        |        |  |  |  |  |
| Jack pine            | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Red pine             | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| White pine           | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| White spruce         | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Black spruce         | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Balsam fir           | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Balsam poplar        | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Hemlock              | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Tamarack             | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Northern white-cedar | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Other softwoods      | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Total                | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Hardwoods            |              |          |      |       |      |           |           |       |        |          |           |       |             |        |        |  |  |  |  |
| White oak            | 2,427        | 46       | 73   | 353   | 154  | 56        | --        | 45    | --     | 49       | --        | 920   | 439         | 247    |        |  |  |  |  |
| Select red oak       | 10,176       | 1,479    | 568  | 432   | 86   | 1,091     | --        | 336   | 339    | --       | 126       | 4,612 | 300         | 508    |        |  |  |  |  |
| Other red oak        | 2,576        | 475      | 587  | --    | --   | 171       | --        | --    | --     | --       | 204       | 328   | 316         | 227    |        |  |  |  |  |
| Hickory              | 93           | 40       | --   | --    | --   | --        | --        | --    | --     | --       | --        | 43    | --          | 10     |        |  |  |  |  |
| Basswood             | 1,255        | --       | 232  | --    | --   | --        | --        | --    | 244    | 101      | 31        | 574   | --          | 73     |        |  |  |  |  |
| Beech                | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Yellow birch         | 44           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | 44    | --          | --     |        |  |  |  |  |
| Hard maple           | 1,270        | --       | --   | 213   | --   | --        | --        | --    | --     | --       | 921       | 136   | --          | --     |        |  |  |  |  |
| Soft maple           | 817          | 400      | 117  | --    | --   | --        | --        | --    | --     | --       | --        | 300   | --          | --     |        |  |  |  |  |
| Elm                  | 1,575        | 68       | 108  | 268   | 227  | 115       | --        | --    | 130    | 283      | 281       | 53    | --          | 42     |        |  |  |  |  |
| Ash                  | 237          | 30       | --   | --    | 40   | --        | --        | --    | 53     | 54       | --        | --    | --          | 60     |        |  |  |  |  |
| Cottonwood           | 73           | --       | --   | --    | --   | --        | --        | --    | --     | 73       | --        | --    | --          | --     |        |  |  |  |  |
| Willow               | 24           | 24       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Hackberry            | 51           | --       | --   | --    | --   | --        | --        | --    | --     | 51       | --        | --    | --          | --     |        |  |  |  |  |
| Balsam poplar        | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Bigtooth aspen       | 764          | --       | 89   | --    | --   | --        | --        | --    | --     | 214      | --        | 399   | --          | 62     |        |  |  |  |  |
| Quaking aspen        | 86           | --       | 86   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Paper birch          | 176          | 128      | --   | --    | --   | --        | --        | --    | --     | --       | 48        | --    | --          | --     |        |  |  |  |  |
| River birch          | 66           | 66       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Black cherry         | 54           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | 31          | 23     |        |  |  |  |  |
| Black walnut         | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Butternut            | --           | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | --     |        |  |  |  |  |
| Other hardwoods      | 8            | --       | --   | --    | --   | --        | --        | --    | --     | --       | --        | --    | --          | 8      |        |  |  |  |  |
| Total                | 21,772       | 2,756    | 612  | 1,860 | 507  | 1,433     | --        | 381   | 766    | 825      | 1,611     | 7,409 | 1,086       | 1,260  |        |  |  |  |  |
| All species          | 21,772       | 2,756    | 612  | 1,860 | 507  | 1,433     | --        | 381   | 766    | 825      | 1,611     | 7,409 | 1,086       | 1,260  |        |  |  |  |  |

Table 52.--Sawtimber average annual removals on commercial forest land by species group and county, Southwest Unit, Wisconsin, 1967-1982  
(In thousand board feet per year)<sup>1/</sup>

| Species group        | All counties | County  |          |       |       |       |           |           |       |        |          |           |        |             |        |
|----------------------|--------------|---------|----------|-------|-------|-------|-----------|-----------|-------|--------|----------|-----------|--------|-------------|--------|
|                      |              | Buffalo | Crawford | Dunn  | Grant | Iowa  | La Crosse | Lafayette | Pepin | Pierce | Richland | St. Croix | Sauk   | Trempealeau | Vernon |
| Softwoods            |              |         |          |       |       |       |           |           |       |        |          |           |        |             |        |
| Jack pine            | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Red pine             | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| White pine           | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| White spruce         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Black spruce         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Balsam fir           | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Hemlock              | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Tamarack             | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Northern white-cedar | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Other softwoods      | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Total                | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Hardwoods            |              |         |          |       |       |       |           |           |       |        |          |           |        |             |        |
| White oak            | 10,659       | --      | --       | 371   | 1,758 | 749   | 279       | --        | 221   | --     | 237      | --        | 3,556  | 2,334       | 1,154  |
| Select red oak       | 46,458       | 7,411   | 1,504    | 2,888 | 2,189 | 424   | 5,458     | --        | 1,694 | 1,701  | --       | --        | 19,394 | 1,291       | 2,504  |
| Other red oak        | 10,632       | 1,534   | 1,267    | 2,825 | --    | --    | 835       | --        | --    | 592    | --       | 592       | 1,549  | 1,553       | 477    |
| Hickory              | 440          | 204     | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | 236    | --          | --     |
| Basswood             | 5,236        | --      | --       | 1,139 | --    | --    | --        | --        | --    | 1,228  | 494      | --        | 2,021  | --          | 354    |
| Beech                | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Yellow birch         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Hard maple           | 6,253        | --      | --       | --    | 1,136 | --    | --        | --        | --    | --     | --       | 4,608     | 509    | --          | --     |
| Soft maple           | 2,144        | --      | --       | 628   | --    | --    | --        | --        | --    | --     | --       | --        | 1,516  | --          | --     |
| Elm                  | 6,401        | --      | --       | 474   | 1,249 | 997   | 508       | --        | --    | 591    | 1,234    | 1,114     | 234    | --          | --     |
| Ash                  | 1,090        | --      | --       | --    | --    | 216   | --        | --        | --    | 270    | 324      | --        | --     | --          | 280    |
| Cottonwood           | 310          | --      | --       | --    | --    | --    | --        | --        | --    | --     | 310      | --        | --     | --          | --     |
| Willow               | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Hackberry            | 233          | --      | --       | --    | --    | --    | --        | --        | --    | --     | 233      | --        | --     | --          | --     |
| Balsam poplar        | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Bigtooth aspen       | 1,767        | --      | --       | 453   | --    | --    | --        | --        | --    | --     | 1,027    | --        | --     | --          | 287    |
| Quaking aspen        | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Paper birch          | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| River birch          | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Black cherry         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Black walnut         | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Butternut            | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Other hardwoods      | --           | --      | --       | --    | --    | --    | --        | --        | --    | --     | --       | --        | --     | --          | --     |
| Total                | 91,623       | 9,149   | 2,771    | 8,778 | 6,332 | 2,386 | 7,080     | --        | 1,915 | 3,790  | 3,859    | 6,314     | 29,015 | 5,178       | 5,056  |
| All species          | 91,623       | 9,149   | 2,771    | 8,778 | 6,332 | 2,386 | 7,080     | --        | 1,915 | 3,790  | 3,859    | 6,314     | 29,015 | 5,178       | 5,056  |

<sup>1/</sup> International 1/4-inch rule.

Table 53.--Timber removals from growing stock and sawtimber on commercial forest land by species group, Southwest Unit, Wisconsin, 1967 and 1982

| Species group                 | Growing stock       |        | Sawtimber                         |         |
|-------------------------------|---------------------|--------|-----------------------------------|---------|
|                               | 1967                | 1982   | 1967                              | 1982    |
|                               | Thousand cubic feet |        | Thousand board feet <sup>1/</sup> |         |
| Softwoods                     |                     |        |                                   |         |
| Jack pine                     | 55                  | 315    | 121                               | 354     |
| Red pine                      | 37                  | 1,648  | 57                                | 1,464   |
| White pine                    | 171                 | 230    | 984                               | 854     |
| White spruce                  | --                  | --     | --                                | --      |
| Black spruce                  | --                  | --     | --                                | --      |
| Balsam fir                    | --                  | --     | --                                | --      |
| Hemlock                       | --                  | --     | --                                | --      |
| Tamarack                      | 1                   | --     | --                                | --      |
| Northern white-cedar          | --                  | --     | --                                | --      |
| Other softwoods               | 1                   | --     | --                                | --      |
| Total                         | 265                 | 2,193  | 1,162                             | 2,672   |
| Hardwoods                     |                     |        |                                   |         |
| White oak                     | 3,819               | 3,972  | 10,310                            | 18,124  |
| Select red oak                | 9,703               | 10,627 | 38,247                            | 49,484  |
| Other red oak                 | 3,589               | 4,981  | 10,921                            | 21,004  |
| Hickory                       | 1,192               | 231    | 1,394                             | 1,027   |
| Basswood                      | 1,816               | 1,293  | 6,305                             | 5,216   |
| Beech                         | --                  | --     | --                                | --      |
| Yellow birch                  | 8                   | 39     | 51                                | 2       |
| Hard maple                    | 1,972               | 1,234  | 7,128                             | 6,206   |
| Soft maple                    | 1,036               | 1,208  | 1,871                             | 3,545   |
| Elm                           | 2,309               | 1,729  | 5,842                             | 6,436   |
| Ash                           | 610                 | 411    | 1,379                             | 1,875   |
| Cottonwood                    | 215                 | 85     | 642                               | 406     |
| Balsam poplar                 | 3                   | --     | 2                                 | --      |
| Bigtooth aspen                | 815                 | 1,229  | 1,179                             | 4,032   |
| Quaking aspen                 | 1,327               | 566    | 2,179                             | 1,804   |
| Paper birch                   | 634                 | 287    | 621                               | 495     |
| Black walnut                  | 258                 | 99     | 1,446                             | 338     |
| Other hardwoods <sup>2/</sup> | 279                 | 438    | 1,246                             | 1,245   |
| Total                         | 29,585              | 28,429 | 90,763                            | 121,239 |
| All species                   | 29,850              | 30,622 | 91,925                            | 123,911 |

<sup>1/</sup> International 1/4-inch rule.

<sup>2/</sup> Includes black cherry and butternut.



Table 54.---Timber removals from growing stock and sawtimber on commercial forest land by item and species category, Southwest Unit, Wisconsin, 1982

| Item                   | Growing stock |       |                 |                      |        |                 | Sawtimber   |       |                 |                                   |        |                 |
|------------------------|---------------|-------|-----------------|----------------------|--------|-----------------|-------------|-------|-----------------|-----------------------------------|--------|-----------------|
|                        | All species   | Pine  | Other softwoods | Aspen                | Oak    | Other hardwoods | All species | Pine  | Other softwoods | Aspen                             | Oak    | Other hardwoods |
|                        | -             | -     | -               | -                    | -      | -               | -           | -     | -               | -                                 | -      | -               |
|                        |               |       |                 | Thousand cubic feet- |        |                 |             |       |                 | Thousand board feet <sup>1/</sup> |        |                 |
| Roundwood products     |               |       |                 |                      |        |                 |             |       |                 |                                   |        |                 |
| Pulpwood <sup>2/</sup> | 1,274         | 1,028 | --              | 32                   | 124    | 90              | 1,363       | 1,035 | --              | 61                                | 152    | 115             |
| Saw logs               | 17,851        | 265   | --              | 581                  | 13,505 | 3,500           | 93,830      | 1,028 | --              | 2,670                             | 71,977 | 18,155          |
| Fuelwood               | 2,909         | --    | --              | 112                  | 1,576  | 1,221           | 8,170       | --    | --              | 302                               | 4,457  | 3,411           |
| Posts                  | 999           | 770   | --              | 91                   | 138    | --              | 889         | 415   | --              | 178                               | 296    | --              |
| Veneer logs            | 518           | --    | --              | 3/                   | 432    | 86              | 3,341       | --    | --              | 1                                 | 2,790  | 550             |
| Poles                  | --            | --    | --              | --                   | --     | --              | --          | --    | --              | --                                | --     | --              |
| Other                  | 709           | --    | --              | 422                  | 94     | 193             | 3,710       | --    | --              | 2,005                             | 706    | 999             |
| Total                  | 24,260        | 2,063 | --              | 1,238                | 15,869 | 5,090           | 111,303     | 2,478 | --              | 5,217                             | 80,378 | 23,230          |
| Logging residue        | 2,642         | 130   | --              | 162                  | 1,854  | 496             | 7,279       | 194   | --              | 392                               | 5,252  | 1,441           |
| Other removals         | 3,720         | --    | --              | 395                  | 1,857  | 1,468           | 5,329       | --    | --              | 227                               | 2,982  | 2,120           |
| All removals           | 30,622        | 2,193 | --              | 1,795                | 19,580 | 7,054           | 123,911     | 2,672 | --              | 5,836                             | 88,612 | 26,791          |

<sup>1/</sup>International 1/4-inch rule.

<sup>2/</sup>Includes particleboard and waferboard bolts.

<sup>3/</sup>Less than 500 cubic feet.

Table 55.--Annual mortality of growing stock on commercial forest land by softwoods and hardwoods, Southwest Unit, Wisconsin, 1967 and 1982

(In thousand cubic feet)

| Species   | 1967  | 1982   |
|-----------|-------|--------|
| Softwoods | 188   | 114    |
| Hardwoods | 7,219 | 16,889 |
| Total     | 7,407 | 17,003 |

Table 56.--Annual mortality of growing stock on commercial forest land by species group and cause, Southwest Unit, Wisconsin, 1982

(In thousand cubic feet)

| Species group        | All causes | Cause   |         |      |         |         |             | Unknown and other |
|----------------------|------------|---------|---------|------|---------|---------|-------------|-------------------|
|                      |            | Insects | Disease | Fire | Animals | Weather | Suppression |                   |
| Softwoods            |            |         |         |      |         |         |             |                   |
| Jack pine            | 59         | --      | --      | --   | --      | --      | --          | 59                |
| Red pine             | --         | --      | --      | --   | --      | --      | --          | --                |
| White pine           | 48         | 14      | 1       | --   | --      | --      | --          | 33                |
| White spruce         | 2          | --      | --      | --   | --      | --      | --          | 2                 |
| Black spruce         | 2          | --      | --      | --   | --      | --      | --          | 2                 |
| Balsam fir           | 3          | --      | --      | --   | --      | --      | --          | 3                 |
| Hemlock              | --         | --      | --      | --   | --      | --      | --          | --                |
| Tamarack             | --         | --      | --      | --   | --      | --      | --          | --                |
| Eastern redcedar     | --         | --      | --      | --   | --      | --      | --          | --                |
| Northern white-cedar | --         | --      | --      | --   | --      | --      | --          | --                |
| Other softwoods      | --         | --      | --      | --   | --      | --      | --          | --                |
| Total                | 114        | 14      | 1       | --   | --      | --      | --          | 99                |
| Hardwoods            |            |         |         |      |         |         |             |                   |
| White oak            | 874        | --      | 47      | 2    | --      | 64      | 12          | 749               |
| Select red oak       | 2,197      | --      | 118     | --   | 32      | 293     | 2           | 1,752             |
| Other red oak        | 1,183      | --      | 16      | --   | --      | 159     | --          | 1,008             |
| Select hickory       | 111        | --      | --      | --   | --      | 39      | --          | 72                |
| Other hickory        | 79         | --      | --      | --   | --      | --      | --          | 79                |
| Basswood             | 394        | --      | 27      | --   | 3       | 17      | --          | 347               |
| Beech                | --         | --      | --      | --   | --      | --      | --          | --                |
| Yellow birch         | 3          | --      | --      | --   | --      | --      | --          | 3                 |
| Hard maple           | 331        | --      | 16      | --   | --      | 73      | --          | 242               |
| Soft maple           | 407        | --      | 4       | --   | --      | 28      | --          | 375               |
| Elm                  | 6,187      | 19      | 5,146   | --   | --      | 69      | 23          | 930               |
| Black ash            | 43         | --      | --      | --   | --      | --      | --          | 43                |
| White & green ash    | 146        | --      | 22      | 2    | --      | --      | 15          | 107               |
| Cottonwood           | 80         | --      | --      | --   | --      | 2       | --          | 78                |
| Willow               | 112        | --      | 3       | --   | --      | --      | --          | 109               |
| Hackberry            | 17         | --      | --      | --   | --      | --      | --          | 17                |
| Balsam poplar        | --         | --      | --      | --   | --      | --      | --          | --                |
| Bigtooth aspen       | 1,845      | --      | 102     | --   | --      | 78      | --          | 1,665             |
| Quaking aspen        | 1,777      | --      | 156     | --   | 9       | 56      | --          | 1,556             |
| Paper birch          | 335        | --      | 66      | --   | --      | 41      | 42          | 186               |
| River birch          | 68         | --      | --      | 2    | --      | --      | --          | 66                |
| Black cherry         | 299        | --      | 12      | --   | 15      | 2       | --          | 270               |
| Black walnut         | 79         | --      | 1       | --   | 1       | --      | --          | 77                |
| Butternut            | 290        | --      | 99      | --   | --      | --      | --          | 191               |
| Other hardwoods      | 32         | --      | 7       | --   | --      | 1       | 2           | 22                |
| Total                | 16,889     | 19      | 5,842   | 6    | 60      | 922     | 96          | 9,944             |
| All species          | 17,003     | 33      | 5,843   | 6    | 60      | 922     | 96          | 10,043            |

Table 57.--Annual mortality of sawtimber on commercial forest land by species group and cause, Southwest Unit, Wisconsin, 1982

(In thousand board feet)<sup>1/</sup>

| Species group        | All causes | Cause   |         |      |         |         |             | Unknown and other |
|----------------------|------------|---------|---------|------|---------|---------|-------------|-------------------|
|                      |            | Insects | Disease | Fire | Animals | Weather | Suppression |                   |
| Softwoods            |            |         |         |      |         |         |             |                   |
| Jack pine            | 99         | --      | --      | --   | --      | --      | --          | 99                |
| Red pine             | --         | --      | --      | --   | --      | --      | --          | --                |
| White pine           | 187        | 53      | 4       | --   | --      | --      | --          | 130               |
| White spruce         | --         | --      | --      | --   | --      | --      | --          | --                |
| Black spruce         | --         | --      | --      | --   | --      | --      | --          | --                |
| Balsam fir           | --         | --      | --      | --   | --      | --      | --          | --                |
| Hemlock              | --         | --      | --      | --   | --      | --      | --          | --                |
| Tamarack             | --         | --      | --      | --   | --      | --      | --          | --                |
| Eastern redcedar     | 1          | --      | --      | --   | --      | --      | --          | 1                 |
| Northern white-cedar | --         | --      | --      | --   | --      | --      | --          | --                |
| Other softwoods      | --         | --      | --      | --   | --      | --      | --          | --                |
| Total                | 287        | 53      | 4       | --   | --      | --      | --          | 230               |
| Hardwoods            |            |         |         |      |         |         |             |                   |
| White oak            | 2,197      | --      | 113     | --   | 2       | 292     | --          | 1,790             |
| Select red oak       | 9,405      | --      | 444     | --   | 159     | 1,432   | 4           | 7,366             |
| Other red oak        | 4,303      | --      | 62      | --   | --      | 677     | --          | 3,564             |
| Select hickory       | 260        | --      | 2       | --   | --      | 5       | --          | 253               |
| Other hickory        | 6          | 6       | --      | --   | --      | --      | --          | --                |
| Basswood             | 1,298      | --      | 133     | --   | 5       | --      | --          | 1,160             |
| Beech                | --         | --      | --      | --   | --      | --      | --          | --                |
| Yellow birch         | 4          | --      | --      | --   | --      | --      | --          | 4                 |
| Hard maple           | 896        | --      | 81      | --   | --      | 347     | --          | 468               |
| Soft maple           | 1,065      | --      | 15      | --   | --      | 119     | --          | 931               |
| Elm                  | 20,754     | 82      | 16,288  | --   | --      | 247     | --          | 4,137             |
| Black ash            | 144        | --      | --      | --   | --      | --      | --          | 144               |
| White & green ash    | 376        | --      | 114     | --   | --      | --      | --          | 262               |
| Cottonwood           | 177        | --      | --      | --   | --      | 6       | --          | 171               |
| Willow               | 321        | --      | 11      | --   | --      | --      | --          | 310               |
| Hackberry            | 73         | --      | --      | --   | --      | --      | --          | 73                |
| Balsam poplar        | --         | --      | --      | --   | --      | --      | --          | --                |
| Bigtooth aspen       | 4,838      | --      | 249     | --   | --      | 371     | --          | 4,218             |
| Quaking aspen        | 1,982      | --      | 47      | --   | --      | 192     | --          | 1,743             |
| Paper birch          | 477        | --      | 2       | --   | --      | 125     | --          | 350               |
| River birch          | 102        | --      | --      | 3    | --      | --      | --          | 99                |
| Black cherry         | 238        | --      | 49      | --   | --      | --      | --          | 189               |
| Black walnut         | 276        | --      | 9       | --   | 8       | --      | --          | 259               |
| Butternut            | 475        | --      | 123     | --   | --      | --      | --          | 352               |
| Other hardwoods      | 31         | --      | 13      | --   | --      | --      | --          | 18                |
| Total                | 49,698     | 88      | 17,755  | 3    | 174     | 3,813   | 4           | 27,861            |
| All species          | 49,985     | 141     | 17,759  | 3    | 174     | 3,813   | 4           | 28,091            |

<sup>1/</sup> International 1/4-inch rule.

Table 58.--Annual mortality of growing stock and sawtimber on commercial forest land by county and softwoods and hardwoods, Southwest Unit, Wisconsin, 1982

| County       | Growing stock       |           |           | Sawtimber                         |           |           |
|--------------|---------------------|-----------|-----------|-----------------------------------|-----------|-----------|
|              | All species         | Softwoods | Hardwoods | All species                       | Softwoods | Hardwoods |
|              | Thousand cubic feet |           |           | Thousand board feet <sup>1/</sup> |           |           |
| Buffalo      | 1,771               | --        | 1,771     | 5,510                             | --        | 5,510     |
| Crawford     | 1,754               | --        | 1,754     | 4,922                             | --        | 4,922     |
| Dunn         | 1,614               | 52        | 1,562     | 4,772                             | 99        | 4,673     |
| Grant        | 1,579               | --        | 1,579     | 4,609                             | --        | 4,609     |
| Iowa         | 515                 | 20        | 495       | 1,569                             | 119       | 1,450     |
| La Crosse    | 1,445               | 18        | 1,427     | 3,462                             | --        | 3,462     |
| Lafayette    | 344                 | --        | 344       | 1,364                             | --        | 1,364     |
| Pepin        | 590                 | --        | 590       | 2,331                             | 2         | 2,331     |
| Pierce       | 872                 | --        | 872       | 2,742                             | --        | 2,742     |
| Richland     | 1,346               | --        | 1,346     | 4,327                             | --        | 4,327     |
| St. Croix    | 702                 | 2         | 700       | 1,347                             | --        | 1,347     |
| Sauk         | 1,888               | 20        | 1,868     | 5,176                             | 53        | 5,123     |
| Trempealeau  | 919                 | --        | 919       | 2,593                             | --        | 2,593     |
| Vernon       | 1,664               | 2         | 1,662     | 5,259                             | 14        | 5,245     |
| All counties | 17,003              | 114       | 16,889    | 49,985                            | 287       | 49,698    |

<sup>1/</sup> International 1/4-inch rule.

Table 59.--Annual mortality of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Southwest Unit, Wisconsin, 1982

| Ownership class       | Growing stock       |           |           | Sawtimber                         |           |           |
|-----------------------|---------------------|-----------|-----------|-----------------------------------|-----------|-----------|
|                       | All species         | Softwoods | Hardwoods | All species                       | Softwoods | Hardwoods |
|                       | Thousand cubic feet |           |           | Thousand board feet <sup>1/</sup> |           |           |
| National Forest       | --                  | --        | --        | --                                | --        | --        |
| Miscellaneous federal | 687                 | --        | 687       | 2,004                             | --        | 2,004     |
| State                 | 466                 | --        | 466       | 1,349                             | --        | 1,349     |
| County and municipal  | 39                  | --        | 39        | 159                               | --        | 159       |
| Indian                | --                  | --        | --        | --                                | --        | --        |
| Forest industry       | --                  | --        | --        | --                                | --        | --        |
| Farmer                | 11,961              | 80        | 11,881    | 36,702                            | 229       | 36,473    |
| Misc. private-corp.   | 626                 | 3         | 623       | 1,363                             | 5         | 1,358     |
| Misc. private-indiv.  | 3,224               | 31        | 3,193     | 8,408                             | 53        | 8,355     |
| All owners            | 17,003              | 114       | 16,889    | 49,985                            | 287       | 49,698    |

<sup>1/</sup> International 1/4-inch rule.



Table 60.--Output of timber products by product, softwoods and hardwoods, and source of material, Southwest Unit, Wisconsin, 1981

| Product                | Standard units         | Roundwood products |                     |               |                     |                   |                     | Plant byproducts |                     |                     |
|------------------------|------------------------|--------------------|---------------------|---------------|---------------------|-------------------|---------------------|------------------|---------------------|---------------------|
|                        |                        | Total              |                     | Growing stock |                     | Non-growing stock |                     | No. of units     |                     | Thousand cubic feet |
|                        |                        | No. of units       | Thousand cubic feet | No. of units  | Thousand cubic feet | No. of units      | Thousand cubic feet | No. of units     | Thousand cubic feet |                     |
| Pulpwood <sup>1/</sup> |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Standard <sup>2/</sup> | 20,933             | 1,648               | 13,059        | 1,028               | 7,457             | 587                 | 417              | 33                  |                     |
| Hardwoods              | cords                  | 51,817             | 4,077               | 3,281         | 246                 | 813               | 61                  | 47,723           | 3,770               |                     |
| Total                  |                        | 72,750             | 5,725               | 16,340        | 1,274               | 8,270             | 648                 | 48,140           | 3,803               |                     |
| Saw logs               |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Thousand <sup>3/</sup> | 4,002              | 682                 | 1,555         | 265                 | 2,447             | 417                 | --               | --                  |                     |
| Hardwoods              | board feet             | 108,379            | 18,957              | 100,541       | 17,586              | 7,838             | 1,371               | --               | --                  |                     |
| Total                  |                        | 112,381            | 19,639              | 102,096       | 17,851              | 10,285            | 1,788               | --               | --                  |                     |
| Veneer logs            |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Thousand <sup>3/</sup> | --                 | --                  | --            | --                  | --                | --                  | --               | --                  |                     |
| Hardwoods              | board feet             | 3,566              | 574                 | 3,218         | 518                 | 348               | 56                  | --               | --                  |                     |
| Total                  |                        | 3,566              | 574                 | 3,218         | 518                 | 348               | 56                  | --               | --                  |                     |
| Fuelwood               |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Standard <sup>2/</sup> | 5,439              | 382                 | --            | --                  | 2,969             | 209                 | 2,470            | 173                 |                     |
| Hardwoods              | cords                  | 415,455            | 29,056              | 41,599        | 2,909               | 320,735           | 22,429              | 53,121           | 3,718               |                     |
| Total                  |                        | 420,894            | 29,438              | 41,599        | 2,909               | 323,704           | 22,638              | 55,591           | 3,891               |                     |
| Posts                  |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Thousand               | 1,104              | 1,134               | 750           | 770                 | 354               | 364                 | --               | --                  |                     |
| Hardwoods              | pieces                 | 367                | 367                 | 229           | 229                 | 138               | 138                 | --               | --                  |                     |
| Total                  |                        | 1,471              | 1,501               | 979           | 999                 | 492               | 502                 | --               | --                  |                     |
| Poles                  |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              | Pieces                 | --                 | --                  | --            | --                  | --                | --                  | --               | --                  |                     |
| Hardwoods              |                        | --                 | --                  | --            | --                  | --                | --                  | --               | --                  |                     |
| Total                  |                        | --                 | --                  | --            | --                  | --                | --                  | --               | --                  |                     |
| Other <sup>4/</sup>    |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Softwoods              |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Hardwoods              | Thousand               | 105                | 105                 | --            | --                  | --                | --                  | 105              | 105                 |                     |
| Total                  | cubic feet             | 3,075              | 3,075               | 709           | 709                 | 26                | 26                  | 2,340            | 2,340               |                     |
| All products           |                        | 3,180              | 3,180               | 709           | 709                 | 26                | 26                  | 2,445            | 2,445               |                     |
| Softwoods              |                        |                    |                     |               |                     |                   |                     |                  |                     |                     |
| Hardwoods              | Thousand               | --                 | 3,951               | --            | 2,063               | --                | 1,577               | --               | 311                 |                     |
| Total                  | cubic feet             | --                 | 56,106              | --            | 22,197              | --                | 24,081              | --               | 9,828               |                     |
|                        |                        | --                 | 60,057              | --            | 24,260              | --                | 25,658              | --               | 10,139              |                     |

<sup>1/</sup>Includes roundwood and plant byproducts used for particleboard and waferboard.

<sup>2/</sup>128 cubic feet; includes wood, bark, and air space.

<sup>3/</sup>International 1/4-inch rule.

<sup>4/</sup>Other (industrial production) includes cabin logs, charcoal wood, shingle bolts, pilings, etc.

Table 61.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Southwest Unit, Wisconsin, 1981

(In thousand cubic feet)

| Product and species group | All sources | Growing-stock trees |           |            | Rough and rotten trees | Salvable dead trees | Other sources |
|---------------------------|-------------|---------------------|-----------|------------|------------------------|---------------------|---------------|
|                           |             | Total               | Sawtimber | Poletimber |                        |                     |               |
| Industrial products       |             |                     |           |            |                        |                     |               |
| Saw logs                  |             |                     |           |            |                        |                     |               |
| Softwoods                 | 682         | 265                 | 252       | 13         | 35                     | 104                 | 278           |
| Hardwoods                 | 18,957      | 17,586              | 16,087    | 1,499      | 309                    | 666                 | 396           |
| Subtotal                  | 19,639      | 17,851              | 16,339    | 1,512      | 344                    | 770                 | 674           |
| Veneer logs and bolts     |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | 574         | 518                 | 518       | --         | 56                     | --                  | --            |
| Subtotal                  | 574         | 518                 | 518       | --         | 56                     | --                  | --            |
| Pulpwood <sup>1/</sup>    |             |                     |           |            |                        |                     |               |
| Softwoods                 | 1,615       | 1,028               | 475       | 553        | 83                     | 155                 | 349           |
| Hardwoods                 | 307         | 246                 | 75        | 171        | 11                     | 6                   | 44            |
| Subtotal                  | 1,922       | 1,274               | 550       | 724        | 94                     | 161                 | 393           |
| Cooperage                 |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | 107         | 94                  | 94        | --         | 8                      | --                  | 5             |
| Subtotal                  | 107         | 94                  | 94        | --         | 8                      | --                  | 5             |
| Piling                    |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Subtotal                  | --          | --                  | --        | --         | --                     | --                  | --            |
| Poles                     |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Subtotal                  | --          | --                  | --        | --         | --                     | --                  | --            |
| Mine timbers (Round)      |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Subtotal                  | --          | --                  | --        | --         | --                     | --                  | --            |
| Posts (Round and split)   |             |                     |           |            |                        |                     |               |
| Softwoods                 | 1,134       | 770                 | 205       | 565        | 46                     | --                  | 318           |
| Hardwoods                 | 367         | 229                 | 96        | 133        | 69                     | --                  | 69            |
| Subtotal                  | 1,501       | 999                 | 301       | 698        | 115                    | --                  | 387           |
| Other                     |             |                     |           |            |                        |                     |               |
| Softwoods                 | --          | --                  | --        | --         | --                     | --                  | --            |
| Hardwoods                 | 628         | 615                 | 447       | 168        | 5                      | 4                   | 4             |
| Subtotal                  | 628         | 615                 | 447       | 168        | 5                      | 4                   | 4             |
| All industrial products   |             |                     |           |            |                        |                     |               |
| Softwoods                 | 3,431       | 2,063               | 932       | 1,131      | 164                    | 259                 | 945           |
| Hardwoods                 | 20,940      | 19,288              | 17,317    | 1,971      | 458                    | 676                 | 518           |
| Total                     | 24,371      | 21,351              | 18,249    | 3,102      | 622                    | 935                 | 1,463         |
| Fuelwood                  |             |                     |           |            |                        |                     |               |
| Softwoods                 | 209         | --                  | --        | --         | --                     | 29                  | 180           |
| Hardwoods                 | 25,338      | 2,909               | 1,801     | 1,108      | 576                    | 10,084              | 11,769        |
| Total                     | 25,547      | 2,909               | 1,801     | 1,108      | 576                    | 10,113              | 11,949        |
| All products              |             |                     |           |            |                        |                     |               |
| Softwoods                 | 3,640       | 2,063               | 932       | 1,131      | 164                    | 288                 | 1,125         |
| Hardwoods                 | 46,278      | 22,197              | 19,118    | 3,079      | 1,034                  | 10,760              | 12,287        |
| Total                     | 49,918      | 24,260              | 20,050    | 4,210      | 1,198                  | 11,048              | 13,412        |

<sup>1/</sup> Includes particleboard and waferboard bolts.

Table 62.--Timber products from roundwood by species group and product, Southwest Unit, Wisconsin, 1981

| Species group                 | All products | Pulpwood <sup>1/</sup> |            | Saw logs                 |            | Veneer logs              |            |
|-------------------------------|--------------|------------------------|------------|--------------------------|------------|--------------------------|------------|
|                               | Thousand     | Standard               | Thousand   | Thousand                 | Thousand   | Thousand                 | Thousand   |
|                               | cubic feet   | cords <sup>2/</sup>    | cubic feet | board feet <sup>3/</sup> | cubic feet | board feet <sup>3/</sup> | cubic feet |
| Softwoods                     |              |                        |            |                          |            |                          |            |
| Jack pine                     | 491          | 5,243                  | 412        | 109                      | 23         | --                       | --         |
| Red pine                      | 2,344        | 13,626                 | 1,077      | 486                      | 81         | --                       | --         |
| White pine                    | 792          | 1,584                  | 122        | 3,404                    | 578        | --                       | --         |
| White spruce                  | 1            | 12                     | 1          | --                       | --         | --                       | --         |
| Black spruce                  | 1            | 22                     | 1          | 1                        | 4/         | --                       | --         |
| Balsam fir                    | 11           | 29                     | 2          | --                       | --         | --                       | --         |
| Hemlock                       | --           | --                     | --         | --                       | --         | --                       | --         |
| Tamarack                      | --           | --                     | --         | --                       | --         | --                       | --         |
| Northern white-cedar          | 4/           | --                     | --         | 2                        | 4/         | --                       | --         |
| Other softwoods               | --           | --                     | --         | --                       | --         | --                       | --         |
| Total                         | 3,640        | 20,516                 | 1,615      | 4,002                    | 682        | --                       | --         |
| Hardwoods                     |              |                        |            |                          |            |                          |            |
| White oak                     | 6,165        | 533                    | 42         | 16,389                   | 2,868      | 172                      | 26         |
| Select red oak                | 13,692       | 1,005                  | 79         | 44,824                   | 7,852      | 1,926                    | 314        |
| Other red oak                 | 6,016        | 441                    | 35         | 19,697                   | 3,450      | 847                      | 138        |
| Hickory                       | 445          | --                     | --         | 1,000                    | 178        | --                       | --         |
| Basswood                      | 1,240        | 149                    | 12         | 5,958                    | 1,063      | 171                      | 28         |
| Beech                         | --           | --                     | --         | --                       | --         | --                       | --         |
| Yellow birch                  | 6            | --                     | --         | 5                        | 1          | --                       | --         |
| Hard maple                    | 2,047        | 313                    | 24         | 6,752                    | 1,125      | 132                      | 19         |
| Soft maple                    | 1,245        | 341                    | 24         | 2,773                    | 492        | 75                       | 12         |
| Elm                           | 9,459        | 406                    | 28         | 3,981                    | 709        | 136                      | 21         |
| Ash                           | 976          | 121                    | 7          | 1,726                    | 303        | 57                       | 8          |
| Cottonwood                    | 140          | 26                     | 2          | 421                      | 74         | 49                       | 8          |
| Balsam poplar                 | 14           | --                     | --         | 81                       | 14         | --                       | --         |
| Bigtooth aspen                | 1,517        | 303                    | 21         | 2,006                    | 348        | 1                        | 4/         |
| Quaking aspen                 | 1,030        | 206                    | 15         | 1,361                    | 236        | --                       | --         |
| Paper birch                   | 423          | 206                    | 16         | 256                      | 42         | --                       | --         |
| Black walnut                  | 187          | --                     | --         | 484                      | 83         | --                       | --         |
| Other hardwoods <sup>5/</sup> | 1,676        | 44                     | 2          | 665                      | 119        | --                       | --         |
| Total                         | 46,278       | 4,094                  | 307        | 108,379                  | 18,957     | 3,566                    | 574        |
| All species                   | 49,918       | 24,610                 | 1,922      | 112,381                  | 19,639     | 3,566                    | 574        |

(Table 62 continued on next page)

<sup>1/</sup>Includes particleboard and waferboard bolts.<sup>2/</sup>128 cubic feet; includes wood, bark, and air space.<sup>3/</sup>International 1/4-inch rule.<sup>4/</sup>Less than 500 cubic feet.<sup>5/</sup>Includes butternut and black cherry.

(Table 62 continued)

| Species group                 | Fuelwood            |            | Posts    |            | Poles  |            | Other products |
|-------------------------------|---------------------|------------|----------|------------|--------|------------|----------------|
|                               | Standard            | Thousand   | Thousand | Thousand   | Pieces | Thousand   | Thousand       |
|                               | cords <sup>2/</sup> | cubic feet | pieces   | cubic feet |        | cubic feet | cubic feet     |
| Softwoods                     |                     |            |          |            |        |            |                |
| Jack pine                     | 795                 | 56         | --       | --         | --     | --         | --             |
| Red pine                      | 732                 | 52         | 1,104    | 1,134      | --     | --         | --             |
| White pine                    | 1,307               | 92         | --       | --         | --     | --         | --             |
| White spruce                  | --                  | --         | --       | --         | --     | --         | --             |
| Black spruce                  | --                  | --         | --       | --         | --     | --         | --             |
| Balsam fir                    | 135                 | 9          | --       | --         | --     | --         | --             |
| Hemlock                       | --                  | --         | --       | --         | --     | --         | --             |
| Tamarack                      | --                  | --         | --       | --         | --     | --         | --             |
| Northern white-cedar          | --                  | --         | --       | --         | --     | --         | --             |
| Other softwoods               | --                  | --         | --       | --         | --     | --         | --             |
| Total                         | 2,969               | 209        | 1,104    | 1,134      | --     | --         | --             |
| Hardwoods                     |                     |            |          |            |        |            |                |
| White oak                     | 41,634              | 2,910      | 213      | 212        | --     | --         | 107            |
| Select red oak                | 77,772              | 5,441      | 6        | 6          | --     | --         | --             |
| Other red oak                 | 34,174              | 2,391      | 2        | 2          | --     | --         | --             |
| Hickory                       | 3,800               | 267        | --       | --         | --     | --         | --             |
| Basswood                      | 1,978               | 137        | --       | --         | --     | --         | --             |
| Beech                         | --                  | --         | --       | --         | --     | --         | --             |
| Yellow birch                  | 89                  | 5          | --       | --         | --     | --         | --             |
| Hard maple                    | 12,565              | 879        | --       | --         | --     | --         | --             |
| Soft maple                    | 8,620               | 603        | --       | --         | --     | --         | 114            |
| Elm                           | 124,334             | 8,701      | --       | --         | --     | --         | --             |
| Ash                           | 9,425               | 658        | --       | --         | --     | --         | --             |
| Cottonwood                    | 834                 | 56         | --       | --         | --     | --         | --             |
| Balsam poplar                 | --                  | --         | --       | --         | --     | --         | --             |
| Bigtooth aspen                | 11,563              | 809        | 87       | 88         | --     | --         | 251            |
| Quaking aspen                 | 7,847               | 549        | 59       | 59         | --     | --         | 171            |
| Paper birch                   | 4,789               | 333        | --       | --         | --     | --         | 32             |
| Black walnut                  | 1,489               | 104        | --       | --         | --     | --         | --             |
| Other hardwoods <sup>5/</sup> | 21,421              | 1,495      | --       | --         | --     | --         | 60             |
| Total                         | 362,334             | 25,338     | 367      | 367        | --     | --         | 735            |
| All species                   | 365,303             | 25,547     | 1,471    | 1,501      | --     | --         | 735            |

<sup>2/</sup>128 cubic feet; includes wood, bark, and air space.<sup>5/</sup>Includes butternut and black cherry.

Table 63.--Volume of primary plant residue by use and type of residue, Southwest Unit, Wisconsin, 1981

(In thousand cubic feet)

| Use                          | Wood residue |           |                      |           |                    |           |                    |           |
|------------------------------|--------------|-----------|----------------------|-----------|--------------------|-----------|--------------------|-----------|
|                              | Total        |           | Coarse <sup>1/</sup> |           | Fine <sup>2/</sup> |           | Bark <sup>3/</sup> |           |
|                              | Softwoods    | Hardwoods | Softwoods            | Hardwoods | Softwoods          | Hardwoods | Softwoods          | Hardwoods |
| Fiber products <sup>4/</sup> | 21.4         | 2,757.0   | 21.4                 | 2,508.7   | --                 | 248.3     | 1.0                | 142.7     |
| Charcoal                     | --           | 75.6      | --                   | 75.6      | --                 | --        | --                 | 48.8      |
| Industrial fuel              | 31.8         | 1,856.7   | 28.2                 | 857.6     | 3.6                | 999.1     | 32.9               | 1,789.9   |
| Domestic fuel                | 141.1        | 1,861.8   | 139.1                | 1,856.2   | 2.0                | 5.6       | 17.3               | 511.2     |
| Miscellaneous <sup>5/</sup>  | 105.2        | 2,264.4   | 0.2                  | 283.9     | 105.0              | 1,980.5   | 16.5               | 1,182.6   |
| Not used <sup>6/</sup>       | 0.9          | 92.2      | 0.6                  | 14.9      | 0.3                | 77.3      | 54.7               | 90.7      |
| Total                        | 300.4        | 8,907.7   | 189.5                | 5,596.9   | 110.9              | 3,310.8   | 122.4              | 3,765.9   |

<sup>1/</sup>Suitable for chipping such as slabs, edgings, veneer cores, etc.<sup>2/</sup>Not suitable for chipping such as sawdust, veneer clippings, etc.<sup>3/</sup>Does not include bark disposal at pulpmills.<sup>4/</sup>For manufacture of pulp, hardboard, or roofing felt.<sup>5/</sup>Livestock bedding, mulch, small dimension, and specialty items.<sup>6/</sup>Includes residue burned as waste.





(Table 64 continued)

| Species group         | Forest type |             |                    |             |           |             |                    |
|-----------------------|-------------|-------------|--------------------|-------------|-----------|-------------|--------------------|
|                       | Tamarack    | Oak-hickory | Elm-ash-soft maple | Maple-birch | Aspen     | Paper birch | Exotics Nonstocked |
| <b>Softwoods</b>      |             |             |                    |             |           |             |                    |
| Jack pine             | --          | 31,902      | --                 | --          | --        | --          | --                 |
| Red pine              | --          | 357,868     | --                 | 28,598      | --        | --          | --                 |
| White pine            | --          | 113,842     | --                 | 216,780     | 2,705     | --          | 18,663             |
| White spruce          | --          | --          | --                 | --          | --        | --          | --                 |
| Black spruce          | --          | --          | --                 | --          | --        | --          | --                 |
| Balsam fir            | --          | --          | --                 | --          | --        | --          | --                 |
| Hemlock               | --          | --          | --                 | --          | --        | --          | --                 |
| Tamarack              | --          | --          | --                 | --          | --        | --          | --                 |
| Eastern redcedar      | --          | 62,761      | --                 | 78,938      | 2,792     | 5,112       | --                 |
| Northern white-cedar  | --          | --          | --                 | --          | --        | --          | --                 |
| Other softwoods       | --          | --          | --                 | --          | --        | --          | --                 |
| <b>Total</b>          | --          | 566,373     | --                 | 324,316     | 5,497     | 5,112       | 18,663             |
| <b>Hardwoods</b>      |             |             |                    |             |           |             |                    |
| White oak             | --          | 20,919,132  | 325,157            | 2,449,968   | 379,469   | 278,814     | 206,932            |
| Select red oak        | --          | 23,703,289  | --                 | 3,452,473   | 322,693   | 699,782     | 169,225            |
| Other red oak         | --          | 14,278,842  | 108,991            | 614,856     | 215,483   | 41,937      | 408,404            |
| Select hickory        | --          | 4,677,483   | 2,461              | 702,678     | 8,222     | 239,702     | 26,376             |
| Other hickory         | --          | 2,003,766   | 40,641             | 1,033,759   | 86,526    | --          | 13,113             |
| Basswood              | --          | 2,815,868   | 48,698             | 4,244,160   | 86,809    | 22,894      | 22,526             |
| Beech                 | --          | --          | --                 | --          | --        | --          | --                 |
| Yellow birch          | --          | 12,424      | --                 | 54,766      | 14,041    | --          | --                 |
| Hard maple            | --          | 1,680,228   | --                 | 6,915,472   | 33,038    | 46,024      | 27,715             |
| Soft maple            | --          | 1,301,310   | --                 | 1,420,534   | 11,092    | 38,674      | 9,139              |
| Elm                   | --          | 2,611,396   | 3,132,836          | 3,184,878   | 196,725   | 149,567     | 45,450             |
| Black ash             | --          | 157,859     | 518,746            | 166,537     | 1,510     | --          | --                 |
| White & green ash     | --          | 620,967     | 556,259            | 1,303,710   | 122,242   | --          | 8,181              |
| Cottonwood            | --          | 256,782     | 367,356            | 184,604     | 144,033   | --          | --                 |
| Willow                | --          | 19,617      | 394,180            | 9,290       | 50,044    | --          | 113,336            |
| Hackberry             | --          | 29,407      | 40,268             | 55,612      | --        | --          | --                 |
| Balsam poplar         | --          | 39,502      | --                 | 2,842       | --        | 15,796      | --                 |
| Bigtooth aspen        | --          | 2,445,737   | 13,868             | 560,615     | 792,155   | 226,190     | --                 |
| Quaking aspen         | --          | 1,550,288   | --                 | 547,855     | 1,782,192 | 179,121     | 12,384             |
| Paper birch           | --          | 2,741,607   | 93,230             | 578,017     | 295,773   | 1,965,045   | --                 |
| River birch           | --          | 52,570      | 335,915            | --          | --        | --          | --                 |
| Black cherry          | --          | 2,211,046   | 13,903             | 1,352,996   | 57,497    | 74,837      | 24,314             |
| Black walnut          | --          | 754,226     | --                 | 232,011     | --        | --          | 34,636             |
| Butternut             | --          | 1,156,107   | 30,597             | 809,759     | 15,358    | --          | 39,400             |
| Other hardwoods       | --          | 630,090     | 500,810            | 372,202     | 88,313    | 45,120      | 26,002             |
| Noncommercial species | --          | 2,007,294   | 30,361             | 1,299,373   | 29,904    | 52,709      | 4,124              |
| <b>Total</b>          | --          | 88,676,837  | 7,350,870          | 31,548,967  | 4,733,119 | 4,076,212   | 1,191,257          |
| <b>All species</b>    | --          | 89,243,210  | 7,350,870          | 31,873,283  | 4,738,616 | 4,081,324   | 1,209,920          |

Table 65.--All live tree biomass by species group and tree biomass component, Southwest Unit, Wisconsin, 1983

(In green tons)

| Species group         | All components | All live<br>1- to 5-inch<br>trees | Biomass component |                   |            |                   |
|-----------------------|----------------|-----------------------------------|-------------------|-------------------|------------|-------------------|
|                       |                |                                   | Growing stock     |                   | Cull       |                   |
|                       |                |                                   | Boles             | Tops and<br>limbs | Boles      | Tops and<br>limbs |
| Softwoods             |                |                                   |                   |                   |            |                   |
| Jack pine             | 520,177        | 66,916                            | 223,787           | 95,745            | 93,642     | 40,087            |
| Red pine              | 2,865,422      | 214,153                           | 1,834,164         | 788,509           | 19,991     | 8,605             |
| White pine            | 744,871        | 222,370                           | 350,164           | 149,218           | 18,068     | 5,051             |
| White spruce          | 41,524         | 31,673                            | 6,989             | 2,862             | --         | --                |
| Black spruce          | 26,523         | --                                | 18,686            | 7,837             | --         | --                |
| Balsam fir            | 7,715          | --                                | 5,423             | 2,292             | --         | --                |
| Hemlock               | --             | --                                | --                | --                | --         | --                |
| Tamarack              | --             | --                                | --                | --                | --         | --                |
| Eastern redcedar      | 153,209        | 27,592                            | 28,419            | 11,538            | 74,215     | 11,445            |
| Northern white-cedar  | --             | --                                | --                | --                | --         | --                |
| Other softwoods       | --             | --                                | --                | --                | --         | --                |
| Total                 | 4,359,441      | 562,704                           | 2,467,632         | 1,058,001         | 205,916    | 65,188            |
| Hardwoods             |                |                                   |                   |                   |            |                   |
| White oak             | 24,559,472     | 611,167                           | 11,402,621        | 4,752,393         | 5,557,380  | 2,235,911         |
| Select red oak        | 28,430,820     | 403,281                           | 15,854,701        | 6,756,767         | 3,821,310  | 1,594,761         |
| Other red oak         | 16,007,682     | 221,275                           | 7,137,276         | 3,017,199         | 3,978,569  | 1,653,363         |
| Select hickory        | 5,656,922      | 415,764                           | 3,018,411         | 1,276,569         | 672,043    | 274,135           |
| Other hickory         | 3,177,805      | 570,219                           | 1,641,070         | 696,462           | 206,704    | 63,350            |
| Basswood              | 7,240,955      | 501,012                           | 3,618,829         | 1,537,650         | 1,132,372  | 451,092           |
| Beech                 | --             | --                                | --                | --                | --         | --                |
| Yellow birch          | 81,231         | --                                | 48,518            | 20,289            | 8,721      | 3,703             |
| Hard maple            | 8,702,477      | 415,593                           | 4,175,573         | 1,779,182         | 1,640,852  | 691,277           |
| Soft maple            | 5,919,874      | 570,686                           | 2,806,205         | 1,199,092         | 954,335    | 389,556           |
| Elm                   | 7,000,204      | 771,413                           | 3,199,818         | 1,326,108         | 1,214,702  | 488,163           |
| Black ash             | 844,652        | 97,594                            | 460,619           | 192,795           | 66,130     | 27,514            |
| White & green ash     | 2,611,359      | 237,768                           | 1,402,008         | 597,478           | 269,971    | 104,134           |
| Cottonwood            | 972,010        | 4,840                             | 629,184           | 266,032           | 50,977     | 20,977            |
| Willow                | 586,467        | 31,765                            | 241,495           | 100,812           | 156,418    | 55,977            |
| Hackberry             | 125,287        | 29,624                            | 59,335            | 24,479            | 8,422      | 3,427             |
| Balsam poplar         | 58,140         | 2,842                             | 38,502            | 16,796            | --         | --                |
| Bigtooth aspen        | 4,038,565      | 227,177                           | 2,469,653         | 1,074,817         | 185,926    | 80,992            |
| Quaking aspen         | 4,185,978      | 400,344                           | 2,230,923         | 960,499           | 421,986    | 172,226           |
| Paper birch           | 5,675,265      | 766,248                           | 2,860,276         | 1,215,486         | 591,807    | 241,448           |
| River birch           | 388,485        | 42,610                            | 188,066           | 79,676            | 54,599     | 23,534            |
| Black cherry          | 3,745,657      | 355,211                           | 1,673,041         | 712,983           | 732,668    | 271,754           |
| Black walnut          | 1,020,873      | 8,580                             | 565,352           | 240,510           | 144,766    | 61,665            |
| Butternut             | 2,051,221      | 55,973                            | 751,946           | 320,931           | 649,106    | 273,265           |
| Other hardwoods       | 1,842,965      | 335,960                           | 441,683           | 184,875           | 632,931    | 247,516           |
| Noncommercial species | 3,423,765      | --                                | --                | --                | 3,079,722  | 344,043           |
| Total                 | 138,348,131    | 7,076,946                         | 66,915,105        | 28,349,880        | 26,232,417 | 9,773,783         |
| All species           | 142,707,572    | 7,639,650                         | 69,382,737        | 29,407,881        | 26,438,333 | 9,838,971         |

Table 66.--Sampling errors<sup>1/</sup> for estimates smaller than the Unit totals of volume, net growth, removals, and area of commercial forest land, Southwest Unit, Wisconsin, 1983

| Sampling error | Commercial forest land | Growing stock                 |           |            | Sawtimber                                    |           |            |
|----------------|------------------------|-------------------------------|-----------|------------|--|-----------|------------|
|                |                        | Inventory                     | Growth    | Removals   | Inventory                                    | Growth    | Removals   |
| Percent        | Thousand acres         | - - -Thousand cubic feet- - - |           |            | - - -Thousand board feet <sup>2/</sup> - - - |           |            |
| 1              | 299.1                  | 24,168,264                    | 1,626,313 | 35,432,994 | 100,373,122                                  | 5,368,599 | 98,463,036 |
| 2              | 74.8                   | 6,042,066                     | 406,578   | 8,858,248  | 25,093,280                                   | 1,342,150 | 24,615,759 |
| 3              | 33.2                   | 2,685,363                     | 180,701   | 3,936,999  | 11,152,569                                   | 596,511   | 10,940,337 |
| 4              | 18.7                   | 1,510,517                     | 101,645   | 2,214,562  | 6,273,320                                    | 335,537   | 6,153,940  |
| 5              | 12.0                   | 966,731                       | 65,053    | 1,417,320  | 4,014,925                                    | 214,744   | 3,938,521  |
| 10             | 3.0                    | 241,683                       | 16,263    | 354,330    | 1,003,731                                    | 53,686    | 984,630    |
| 15             | 1.3                    | 107,415                       | 7,228     | 157,480    | 446,103                                      | 23,860    | 437,613    |
| 20             | 0.7                    | 60,421                        | 4,066     | 88,582     | 250,933                                      | 13,421    | 246,158    |
| 25             | 0.5                    | 38,669                        | 2,602     | 56,693     | 160,597                                      | 8,590     | 157,541    |
| 50             | 0.1                    | 9,667                         | 651       | 14,173     | 40,149                                       | 2,147     | 39,385     |
| 100            | 0.0                    | 2,417                         | 163       | 3,543      | 10,037                                       | 537       | 9,846      |

<sup>1/</sup>At the 68-percent probability level.

<sup>2/</sup>International 1/4-inch rule.

Table 67.--Sampling errors for county totals of growing-stock volume, net growth, removals, and area of commercial forest land, Southwest Unit, Wisconsin, 1983

(Percent of estimate)

| County       | Commercial forest land | Growing stock |        |               |
|--------------|------------------------|---------------|--------|---------------|
|              |                        | Inventory     | Growth | Removals      |
| Buffalo      | 1.26                   | 10.81         | 17.66  | 110.93        |
| Crawford     | 1.34                   | 12.07         | 19.67  | 239.02        |
| Dunn         | 1.33                   | 11.58         | 17.61  | 132.71        |
| Grant        | 1.27                   | 11.76         | 18.18  | 164.39        |
| Iowa         | 1.48                   | 15.75         | 23.33  | 264.08        |
| La Crosse    | 1.57                   | 13.82         | 24.00  | 154.29        |
| Lafayette    | 2.82                   | 30.41         | 61.22  | <sup>1/</sup> |
| Pepin        | 2.37                   | 24.54         | 43.84  | 306.82        |
| Pierce       | 1.72                   | 17.24         | 25.95  | 212.40        |
| Richland     | 1.37                   | 13.14         | 21.45  | 209.01        |
| St. Croix    | 2.03                   | 20.68         | 24.76  | 140.19        |
| Sauk         | 1.28                   | 11.16         | 17.31  | 67.43         |
| Trempealeau  | 1.43                   | 13.97         | 20.17  | 172.84        |
| Vernon       | 1.22                   | 10.90         | 18.69  | 166.97        |
| All counties | 0.39                   | 3.65          | 5.74   | 39.38         |

<sup>1/</sup>There were no average annual removals for this county.







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The timber resource of the Southwest Wisconsin Survey Unit increased 29 percent in commercial forest area and increased 52 percent in growing-stock volume between 1968 and 1983. Highlights and statistics from the fourth inventory of this unit are presented for area, volume, growth, mortality, removals, utilization, and biomass.

KEY WORDS: Statistics, area, volume, growth, mortality, removals.

